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A Review of the Hardware, Iron and Metal Trades.

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Marland's Improvements for Utilizing the Heat of Boiler Furnaces.

The accompanying illustrations represent an apparatus patented by Mr. O. Marland, for the purpose of securing a greater econ-omy of fuel in boiler furnaces, &c. In Fig. 1 for the purpose of securing a greater economy of fuel in boiler furnaces, &c. In Fig. 1 a cross section of the apparatus is shown near the front end of a boiler setting. In this case the boiler is represented as a plain tubular. Fig. 2 shows a cross section at the back end, and Fig. 3 is a longitudinal section. The device is an application of the well-known principles of the Siemens regenerative furnace. The draft is controlled, or rather furnished, by a pair of Roots blowers, and the outgoing hot air from the furnace is divided into three streams, between which the cool air to support combustion is forced, so as to highly heat it before it enters the furnace, while the products of combustion are proportionately cooled. In Fig. 1, H is an air pipe connecting with all the passages, A, and conducting air from them to the branch pipes P and J', by which the air is distributed into the ashpit, over the bridge wall and to other portions of the furnace, as K and L in Fig. 3. D and N are the cases of the two Roots blowers, N being used to

this be utilized we should have a horse-power for about 1-5th of a pound of coal per horse-power per hour. The best engines, however, use ten times as much, or 2 pounds, and the great majority of engines use from 15 to 20 times as much, or say from 3.25 to 4.25 pounds of coal per horse-power per hour. When we come to a theoretical consideration of the amount of heat which may be utilized in a steam engine with the existing con-ditions and the temperature at which we

rather than overstating the matter to say that the average of good practice would show a double supply of air. If we take as the most common boiler

pressure in stationary boilers 80 pounds per square inch above the atmosphere—say, 95 and absolute—its temperature, 324 F., pounds absolute—its temperature, 324° F. will be that of the cooling surface to which the hot gases are exposed. In strictness, the temperature of the outside of the boiler in a steam engine with the existing control ditions and the temperature at which we have to exhaust steam into the atmosphere, have to exhaust steam into the outer without their temperature inside, and ust be about their temperature inside, and use the transmission of heat from without or implies a higher temperature on the outer surface. Data exist for the computation of ditions, but the computation is unnecessary here. It is probable that there can be no ditions, but the computation is unnecessary without to the water within a boiler, with here. It is probable that there can be no ditions, but the computation is unnecessary without to the water within a boiler, with exist on the two sides of the plates. Prof. Dwelshauvers-Dery, in an article within and without, which will include the difference in the two sides of the plates. Pr plates will be higher than this, as 324 degrees must be about their temperature inside, and the transmission of heat from without implies a manuscript of the computation of surface. Data exist for the computation of this exterior temperature under given conditions, but the computation is unnecessary here. It is probable that there can be no here. It is probable that from the gases

in the boiler, say within 75 degrees, making their ultimate temperature, on release, 60 + 75 = 135 degrees. This is not too hot for discharge through a Roots blower, while it is too cool to give efficient draft in a chim-At this temperature the ratio of irreney. At this temperature the ratio of irrevocable loss becomes one-fourth as much as at 300 degrees above outside air, say, for double supply of air (100 per cent. surplus) 2.97 per cent.

I have set the several ratios in an addi-

column at the right hand of Table II., solumn 8. Taking now the ratios of loss, with 100 per cent. surplus air, from Table II., and subtracting from each one this final ss, we have :

Table III.—Ratio, per cent., of saving to be effected by O. Marland's smoke-cooling air heater, at 100 per cent. surplus air-supply.

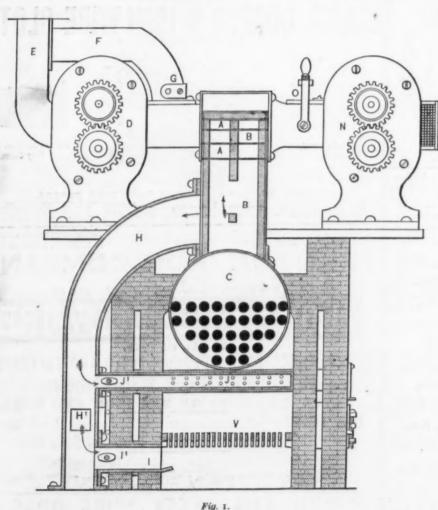
	Es		ng fro	m Bo		bove
	300°	400°	500°	600°	700°	800°
x.	2.	3.	4.	5.	6.	7.
First loss Final loss	2.97	15.81 2.97	19.77	23.72	27.67	31.63
Actual saving	8.89	12,84	16.80	20.75	24.70	28.66

ater of 60 degrees to steam of 324 degrees (80 pounds steam-gauge), this apparatus should be able to bring all good boilers, with whatever excess of air, or at whatever (reasonable) degree of heat, the gases were allowed to escape from the boiler. Not only will this apparatus restore to the furnace a large part—from four-fifths to give pairty nights. large part—from four-fifths to eight ninths of the heat otherwise inevitably lost—not only will it serve as a "heat-trap" to arrest and restore the loss otherwise inevitable by admission of cold air at the doors while firing and clearing out fires, and by the neglect or unskillfulness of firemen—it will also, I have no doubt, increase the rapidity of combustion, and so enable complete combustion to be carried on with a smaller quantity of

air—i. e., with less excess over the quantity of air—i. e., with less excess over the quantity chemically necessary.

[We are sorry that we cannot give Mr. Hoadley's pamphlet in full, as the reasoning is consecutive and clear, and much is lost by any attempt at condensation. The following are the concluding remarks:

There can be no doubt that the heat to be There can be no doubt that the heat so be eturned to the furnace would several times sxceed that necessary to make the power required to drive the exhausting fan, to the operation of which the final temperature of



(Similar Letters Refer to Similar Parts in Each Figure.)

Fig. 2.

MARLAND'S IMPROVEMENTS FOR UTILIZING THE HEAT OF BOILER FURNACES.

force the air into the furnace, and D to ex-admission of a greater amount of air than haust it and force it out of the pipe. In can be used for consuming the coal. On Fig. 2 a section of the blower is shown. page 3 we give these tables, and quote below Here the arrows indicate the course of the lat length from Mr. Hoadley's pamphlet air. Entering the blower N, it passes into the tubes A A, and turning at right angles is conducted along the whole length of the boiler, separated from the hot-air currents by thin partitions, which divide the spaces A A from B B. It then passes down the tube H H and into the furnace, from which, after passing through the fire and the tubes, it is exhausted by the blower D and discharged into hausted by the blower D and discharged into the air. When the exhaust blower is not running, the valve G is opened and the gases escale by the passage T. Two blowers are not necessary, D being in many cases ample for the purpose, according to the ideas of the inventor. Fr. 3 (see page 3), the longitudinal section, show more clearly the relationships of the various parts, especially the passages A and B, in which the gases travel as opposite directions, separated only by the metal partitions. A and A are bridge walls, F and I the passages shrough which the air enters, and C the "frequence-tion" by which the air is conducted to the exhaust fan.

age 3 we give these tables, and quote below t length from Mr. Hoadley's pamphlet ome of the conclusions which he deduces

om them: Doubts may be entertained as to so large an excess of air as 150 per cent. occurring in practice. In fact, it is very common. It is not easy to carry on complete combustion by means of natural draft with less than coo per cent excess—i. e., double the necessary quantity, reckoned as it usually is a 12 pounds of gases absolutely necessary popund of coal, as if coal were entirely con oned of carbon. Now, 25 pounds of gase us products for the combustion of on ound of anthracite coal, containing only five-sixths of a pound of carbon, and producing, with no excess of air, only 10. pounds of gases, is equal to (25-10.5 = 2.38)
138 per cent. surplus air. Experiments to
ascertain the composition, volume and temperature of the gases from 17 boilers, burning good anthracite coal at a known rate,
with great care, and under most favorable the air esters, and C the "freet connection" by which the air is conducted to the exhaust fan.

Mr. John C. Hoadley, the well-known engineer, has recently published a pamphlet upon the subject of the combustion of fuel and the advantages likely to accrue from the use of this improved apparatus. Starting with the constitution of coal, we find perature of the furnace. This should be, anthracite, though very pure carbon, is reduced in value, from various causes, to about 2600 thermal units per pound. Could all of degrees. In my opinion, it is understating

re has satisfied me that in excellent boilers, ell fired, having a ratio of heating surface grate area as large as 36, the temperature to grate area as large as 30, the temperature of the escaping gases rarely, if ever, falls lower than 75 degrees above the temperature due to the steam pressure, except when the fire doors are open, and there is great and unusual excess of air admitted. Addng 75 degrees to the temperature corresing 75 degrees to the temperature corresponding to 80 pounds steam-gauge pressure, 324 degrees, we have, say, 400 degrees as the lowest practicable temperature of escaping gases. This will be confirmed by the best practice under favorable conditions; and the actual temperature will range through a low average of 500 degrees and a high average of 600 degrees up to 800 degrees or over; in some extreme cases going up to high incandescence, or over 1000 degrees.

going up to high incandescence, or over 1000 degrees.

How much of this loss can be saved and returned to the fire? By the Marland plan of passing the gases after their escape from the boiler through thin passages, the thin walls of which are in contact on their opposite sides with air for supplying combustion, entering with a current flowing in a direction consists that of the series the first on opposite to that of the gases, the fina that of the external air, say, as an approxi-mate mean, 60° F., to which the temperature of the gases may be made to approximate as closely as to the temperature of the water

eems to me excessive; but 75 degrees is It appears, then, that under ordinary cirrobably quite within the mark. Observation of a pyrometer in the smoke box of a total quantity of heat produced by the cometurn-tubular boiler at all stages of the bustion of anthracite coal, can certainly be bustion of anthracite coal, can certainly be saved and returned to the furnace by the Marland apparatus, judiciously arrange and proportioned; that in no circumstance can such saving fall so low as 10 per cent. and that it will often be 25 per cent., and

may, in extreme cases, reach 30 per cent. The rate of evaporation per pound of co om feed water at 60°, under 80 pound eam gauge pressure, say 324°, is certainly general, below 8 pounds. Indeed, 8 pounds of dry steam is a fair result, 8.15 pounds good result, 8.5 pounds very good, and 9. pounds about the best usually attainable ing rather over 10,000 thermal units, which corresponds to 60 per cent. of the full calor ific power of carbon, and is, for coal of five-sixths carbon, a high result.

If we take, as we properly may, 8. pounds of water evaporated into dry steam of 80 pounds steam gauge pressure from feed water of 60°, with 1 pound of anthracite coal of five-sixths carbon, as corresponding o an air supply of 100 per cent. surplus nd escaping temperature of gases of 400 above external air, the apparatus, in effecting a saving of 12.84 per cent., would add to the evaporation, say, 12.84 per cent of 10.8 = 1.4 pounds, making (8.5+1.4) 9.9 pounds; 10.8 pounds being the full evaporating power of such coal under the given conditions. To about this degree of efficients ciency, or to nearly or quite 10 pounds of water per pound of five-sixths coal from

the gases presents no objection. No damage would probably be done to the plates of the r passages of this apparatus by the hea-the entering gases in any admissible cirt imstances. Such gases are usually received m flues of return flue or return tubular oilers, in plate-iron smoke boxes, which rove as durable as other parts of the boiler nd its appurtenances.

The passages are so divided that each one s thin, and the exposed surface is large, so that the temperature would fall rapidly, and thin plates must prove durable. The use of an exhaust fan will produce an inward draft at all orifices or leaks, which will erely increase, in some small but probably nsensible degree, the load on the blower, out will, on the other hand, keep the incom-ng air free from carbon-dioxide and nitroand the fire-room free from noxious

CALL STREET, S

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In the construction of new works the outlay for the Marland apparatus will be, or at least may be, largely offset by saving in the

If this apparatus can be successfully applied to marine engines, the gain by reduc-tion of coal cargo, and by the increase of paying freight carrying capacity, is too vious to require comment.

The arrangements for cleaning out the moke passages seem to be convenient and efficient. efficient. The whole apparatus bears marks of thoughtful study, and seems to me to promise results worth some effort and expense to put to the proof of practical

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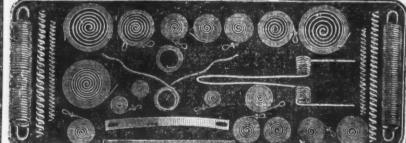
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The following are tables I and II, referred on the first page. They convey in a clear namer an idea of the relations of the sses to each other and to their causes :

ABLE I.—Gaseous products of the combustion of anthracite coal, and the loss caused by the escape of these gases at several assumed temperatures, with just sufficient air for perfec combustion, and with various degrees of surplus, 50, 100, 125 and 150 per cent.

150 %	125 %	N 001	50%	0		81	Excess of air for combustion or carbon. Per ct necessary quan- tity.
25.000	22.583	20,166	15.333	10.50	Pounds.	63	Weight of gas eous products of combustion of carbon in one pound of an thracite coal— 5-6 of coal.
5.9242	5.3515	4.7788	3.6335	2.4831	Thermal units.	ų	Corresp'nding wt of water which could be heated to by cooling these gases 10.
4.573	4,131	3,689	2,805	1,921	Foot-lbs.	+	Thermal units ex pressed in foot pounds.
1,371,900	1,239,300	1,106,700	841,500	576,300	Foot-lbs.	Ċ	Total for 300 above externa
1,000,200	1,652,400	1,475,600	1,122,000	768,400	Foot-lbs.	6.	Total for 400 above externa
2,286,400	2,065,500	1,844,500	1,402,500	960,500	Foot-lbs	7.	Total for 500° above externa

I have made the divisions above mention

all, 600 feet; beam, 52 feet; depth of hold, 37 feet. The breadth and depth give the ship unusual stability at sea and decrease the resistance, giving her a great advantage in speed. The immense hull is divided into ten water-tight compartments, and besides, each of the boiler rooms and the coal bunkeach of the oner rooms and the coarbunk-ers, which are built on each side of the boilers as a protection in case of collision, are also water-tight. Every mechanical contrivance that can make great strength possible in the building of her hull has been used, and no expense has been spared to make her not only the largest, but the oundest and strongest vessel afloat. ross tonnage of the City of Rome is 8000 ons, of which about 2000 tons is taken up for engine and coal room. For safety, in the event of her coming into collision with another vessel or stranding on rocks, she has collision bulkheads and a double bottom. The engines that are to propel this immense craft through the water are of the style known as the "inverted tandem." They consist of three high and three low pressure cylinders. Steam is supplied by eight cylintrical tubular boilers, fired from both ends. The engines are intended to work up to 8000 indicated horse-power constantly, but when necessary, they can with perfect safety develop 10,000 horse-power.

New York Trade and Art Schools.

Under a joint arrangement between Richard T. Auchmuty and the trustees of the Metropolitan Museum of Art, a technical school for the industrial education of artians in the elements of mechanics and sans in the elements of mechanics and design was established in the fall of 1880, in a building, specially erected and presented by Mr. Auchmuty for the purpose, in First avenue, between Sixty-seventh and Sixtyeighth streets. Classes were formed for prac I have made the divisions above mentioned stical instruction in drawing and designing, rvarious temperatures, ranging from 300 to adecoration in distemper, modeling and carv-

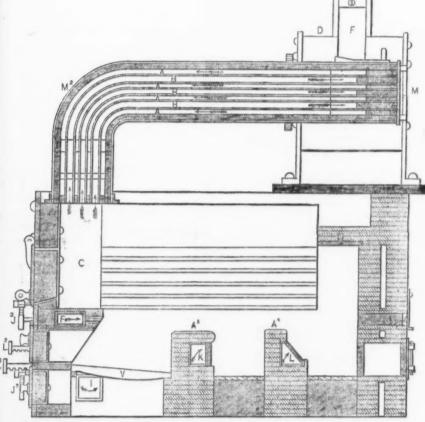


Fig. 3.

Marland's Improvements for Utilizing the Heat of Boiler Furnaces.

PABLE II.—Ratio per cent, of the heat carried off by the gaseous products of combustion to the total calorific power of each pound of coal, with various degrees of excess of air, and at various temperatures of the escaping gases above the external air.

ally ne- com- carbon, of the quan-	Ratio	of loss	to total	calorific	Ratio of loss to total calorific power,—Per cent.	-Per ceak	7
chemically for on of cont. Cont. Cont.		Temp	erature	above e	Temperature above external air.	air.	
per	3000	4009	Soo	Good!	7000	Boo?	72
.00		3.	+	s.	6.	19	00
g	6.18	80.24	10.30	13.36	14.43	16.47	
50 M	9.02	12.03	15.04	18 04	31.05	24.06	10
¥ 0€1	11.96	15.81	19.77	33.72	27.67	31.69	
125 %	13.29	17.73	22.15	16,58	31.01	35-44	<u>u</u>
150 ¥	14.71	19.61	24.52	39.43	34.32	39.33	Lui

roo degrees above the external air, and have sing, carriage drafting and plumbing. There abulated the result in the following table:

were 143 pupils in attendance at the school last winter. It was open day and evening by the gaseous products of combustion to the ent trades and arts, but a particular feature was made of shop instruction by foremen and journeymen from different manufectories in this city. The membership of the different classes was as follows: Drawing Drawing nd design, 31; modeling and carving, 23 carriage drafting, 21; decoration in dis-temper, 13; plumbing and sanitary engin

No. of the

ering, 50. Since the schools were closed last spring, a wealthy man of this city has given \$50,000 to the Metropolitan Museum of Art, to be devoted to the advance of art education. devoted to the advance of art education. The art classes will be withdrawn, therefore, from the building at Sixty-eighth street and will meet at Glass Hall, in Thirty-fourth street. The artisan classes will remain as heretofore at Sixty-eighth street and he known as the New York Trade Schools. There will be two schools, practically; one for the decorative arts, and the other for the trades. The former will be in charge of John Buckingham, former manager of the schools, and the latter will be under the supervision of Charles F. Wingate, who had charge last winter of the class in plumbing and sanitary engineering.

The course of instruction for the coming year will embrace many new features. There is a large and well-appointed workshop, where instruction will be given in the manual branches of the trade. Attached to this workshop will be a collection of articles and meaning the street in the service well in advances.

manual branches of the trade. Attached to this workshop will be a collection of articles and materials used in plumbing. It is proposed to make this collection as complete as possible. Professor C. F. Chandler, president of the latest addition to the already large fleet of the Board of Health, and Professor the latest addition to the already large fleet of the School of Mines of Columbia the latest addition to the already large fleet of the School of Mines of Columbia to the Imman Line of transatlantic steamers, will leave Liverpool for this port.

Without exception, the City of Rome is the largest passenger steamer afloat, and with the exception of the Great Eastern, is the largest vessel afloat. She was built in the yard of the Barrow Shipbuilding Company, at Barrow-in-Furness. Lancashire, alongside the Furnessia, the last new steamer of the Ancher Line. Her dimensions are: Length below the instruction given in the sories of the trade. Attached to this workshop will be a collection of articles and materials used in plumbing. It is proposed to make this collection as complete as possible. Professor C. F. Chandler, president of the School of Mines of Columbia College, have volunteered to take part in the series of lectures to be given to the class. The new plumbers' license law is intended to secure a higher order of plumbers of the Barrow-in-Furness. Lancashire, alongside schools are not intended to be either a charitable or a money making institution, the order of the instruction given.

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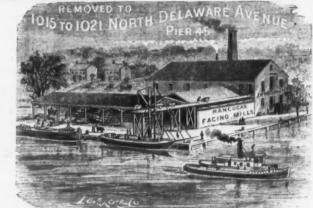
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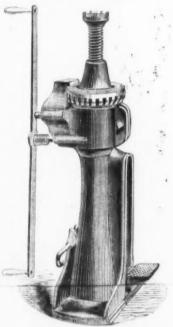
STICE COX, J

No. 333 Walnut St.,

The accompanying illustration represents w form of screw jack invented by Mr. ederick Tischer, for raising heavy weights, is of the class known as claw or top ting, the heavy claw enabling it to lift om the bottom as well as the top. The mmon screw jack has some very desirable natures as a means of lifting, but there many disadvantages which, when apied to very heavy work, makes it alsost useless. In this new jack the inventor ems to have done away with all these obtained in the second of the second jack of very great power and utility. hat shown in the cut is intended to lift 15 ns, and weighs about 150 pounds. The allest size, or five-ton jack, weighs 60 unds. These are about the same weights, e believe, as ordinary jacks of the same

The jack consists of a long and carefully at steel screw, working in a deep bronze ut. This nut rests upon a series of conical olders having journals, by which they are eld in position by a traveling plate. The ournals have no work to do other than to olds the rolls in place. The top of the head and bottom of the nut are both carefully rned, to give an accurate bearing between ne rolls and the bearing surfaces. This takes the screw work easily, even when the all load is on it.

The nut has a bevel gear cut on its lower dge, which gives means for driving it.
This is done by two cog wheels. The upper
of these wheels is twice as large as the
ower, and as both of them have projecting ubs or shafts which are fitted to take the ndle, it will be seen that the jack has two eeds, which is very convenient, enabling screw to be run in and out rapidly under ght loads, and at the same time furnishing



n Improved Form of Screw Jack for both Light and Heavy Work.

reat power when heavy work is to be done, mply by changing the handle to the lower It is represented in this position in he cut.

The box or head containing the gearing held in position by a clamp, which may e loosened and the head swung into any onvenient position—no small advantage in some cases, as it enables the handle to be to out of the way of projections and the like, which often interfere with the working of fixed heads. Instead of the revolving handle, as shown in the cut, a ratchet handle may be put on, which, in combina-tion with the revolving head, may be worked at any angle, horizontal or vertical, and in

very confined space.

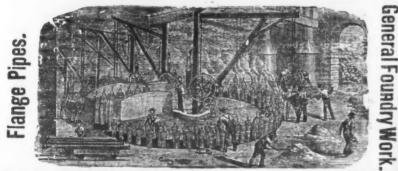
The screw jack holds its load at any point which it may be left without any sinking own, while, with the handle as shown, but aced upon the upper stud, the weight can run down rapidly. For lighter work and r jacks not needed for low work, other yles are made without the claw, which are eaper. The great reduction in friction tained by the use of the improved form of out and gearing, has greatly increased the ower of this jack, while the large nut and s careful fitting will no doubt reduce the rear to a minimum. Messrs. Geo. A. Ohl 212 to 218 Passaic avenue. ewark, N. J., are the sole manufacturers.

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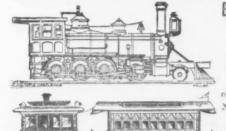
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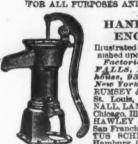
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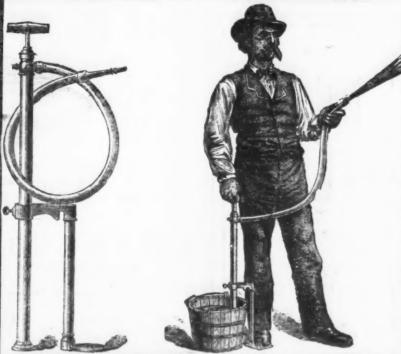
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The addresses of the presidents of the various sections of the British Associa tion," as it is familiarly called, have most of them been of unusual interest this year. The president of Section G takes up various subjects connected with the production of power, and discusses them at some length. The most interesting portion, perhaps, is that relating to the future uses of electricity in connection with the production and application of power. As he very happily says cation of power. As he very happily says many people look upon electricity as a pana cea for all mechanical deficiencies. He say there is certainly some excuse for those wh are not well informed upon the subject fall-ing into an error of this kind, especially when they consider the wonderful advances which have recently been made in electric lighting, &c. The president then goes on to say: The difference between heat and electricity in their modes of mechanical action is very

wide. Heat acts by expansion of volume which we know to be a necessarily wastefu

principle, while electricity operates by at-traction and repulsion, and thus produces motion in a manner which is subject to no

greater loss of effect than attends the motive action of gravity, as exemplified in th onderable application of falling water in draulic machines. If, then, we could pro-ace electricity with the same facility and ny as heat, the gain would be enor but this—as yet, at least—we canno do. At present by far the cheapest metho of generating electricity is by the dynami cess. Instead of beginning with electric ity to produce power, we begin with powe to produce electricity. As a secondary mo tor, an electric engine may, and assuredly will, play an important part in future appli cations of power, but our present inquiry relates to a primary, and not a secondary, employment of electricity. Thus we are brought to the question, From what source, other than mechanical action, can we hope to obtain a supply of electricity sufficiently chear and abundant to enable it to take the place of heat as a motive energy ? It is commonly said that we know so little of the nature of electricity that it is impossible to set bound to the means of obtaining it, but ignorances at least as liable to mislead in the direct is at least as name to instead it the direction of exaggerated expectation as in that of incredulity. It may be freely admitted that the nature of electricity is much less understood than that of heat, but we know that the two are very nearly allied. The loctrine that heat consists of internal mo-tion of molecules, may be accepted with al most absolute certainty of its truth. The old does do being a separate entity is no longer held, except by those who prefer the fallacious evidence of their senses to the demonstrations of science. So also the idea of electricity having a separate existence from tangible matter must be discarded, and we are justified in concluding that it is merely a strained or tensional condition of the molecules of matter. Although elec-tricity is more prone to pass into heat than heat into electricity, yet we know that they are mutually convertible. It was a second to that magnificent generalization of modern times, so pregnant with great consequences, and for which we are indebted to many illustrious investigators, we now know that heat, electricity, and mechanical action, are all equivalent and transposable forms of energy,

f which motion is the essence.

To take a cursory view of our available To take a cursory view of our available sources of energy, we have, firstly, the direct heating power of the sun's rays which, as yet, we have not succeeded in applying to motive purposes. Secondly, we have water power, wind power and tidal power, all depending on influences lying out side of our planet. And, thirdly, we have shemical attraction or affinity. Beyond these there is nothing worth naming. Of the radiant heat of the sun I shall have to speak hereafter, and bearing in mind that peak hereafter, and bearing in mind that we are in search of electricity as a cause. and not an effect, of motive power, we may pass over the dynamical agencies comprised under the second head, and direct our attention to chemical affinity as the sole remaining source of energy available for our purcose. At present we derive motive power rom chemical attraction through the medium of heat only, and the question is, Can we with advantage draw upon the same source hrough the medium of electricity! The process by which we obtain our supply of heat from the exercise of affinity is that of comastion, in which the substances used con sist, on the one hand, of those we call fuel of which coal is the most important, and on the other, of oxygen, which we derive from the atmosphere. The oxygen has an im-monse advantage over every other available substance, in being omnipresent and costless. The only money value involved is that of the fuel, and in using coal we employ the cheap-est oxidizable substance to be found in nature. Moreover, the weight of coal used in the combination is only about ove-third of in the combination is only about one-third of the weight in oxygen, so that we only pay upon one-fourth of the whole material con-sumed. Thus we have conditions of the most favorable description for the produc-tion of energy, in the form of heat, and if we could only use the affinities of the same substances with equal facility to evolve electric energy instead of heat energy, there electric energy instead of heat energy, there would be nothing more to desire; but as yet there is no appearance of our being able to do this. According to our present practice we consume zinc, instead of coal, in the voltaic production of electricity, and not only is zinc 30 or 40 times dearer than coal, but it requires to be used in about sixfold larger matrix in order to develop an equal it requires to be used in about sixfold larger express by the word "current," and this quantity in order to develop an equal amount of energy. Some people are bold enough to say that with our present imperfect knowledge of electricity we have no right to condemn all plentiful substances, other than coal, as impracticable substitutes for metallic zinc, but it is manifest that we cannot get energy from affinity, where affinity has already been satisfied. The numerous bodies which constitute the mass of our globe, and which we call earths, are bodies in this inert condition. They have already, by the union of the two elements composing them, evolved the energy due to combination, and that energy has ages ago been dissipated in space in the form of heat, never again to be available to us. As well mission of power. The cost of the conduction will, however, be a grave consideration

Mechanical Applications of Electricity. Tuse such bodies over again as sources of heat or electricity. To make them fit for our purpose we should first have to annul their tate of combination, and this would require the expenditure of more energy upon them than we could derive from their recombina-

> Water, being oxidized hydrogen, must be placed in the same category as the earths. In short, the only abundant substances in nature possessing strong, unsatisfied affinities, are those of organic origin, and in the absence of coal, which is the accumulated product of a past vegetation, our supply of such substances would be insignificant. This being the case, until a means be found of making the combination of coal with exygen disastly are itself. directly available for the development of electric energy, as it now is of heat energy, there seems to be no probability of our ob-taining electricity from chemical action at uch a cost as to supplant heat as a motive agent. But while still looking to heat as the fountain head of our power, we may very possibly learn to transmute it economically into the more available form of electricity. One method of transformation we already possess, and we have every reason to believe hat there are others yet to be discovered. We know that when dissimilar metals are joined at opposite ends, and heated at one et of junctions while they are cooled at the ther, part of the heat applied disappears in the process, and assumes the form of an electric current. Each couple of metals may be treated as the cell of a voltaic battery, and we may multiply them to any extent, and group them in series or in parallels, with the same results as are obtained by similar combinations of voltaic cells. The electricso produced we term thermo-electricity, and the apparatus by which the current is avolved is the thermo-electric battery. At evolved is the thermo-electric battery. At present this apparatus is even more wasteful of heat than the steam engine; but considering the very recent origin of this branch of electrical science, and our extremely imperfect knowledge of the actions involved, we may reasonably regard the present thermo-electric battery as the infant condition of a discovery, which if it follows the ion of a discovery, which, if it follows the ule of all previous discoveries in electricity, only requires time to develop into great practical importance. Now, if we possessed an efficient apparatus of this description, we could at once apply it to the steam engine for the purpose of converting into electric nergy the heat which now escapes with he rejected steam and the gases from the

The vice of the steam engine lies in its in-ability to utilize heat of comparatively low grade, but if we could use up the leavings of the steam engine by a supplemental machine acting on thermo-electric principles, the present excessive waste would be avoided. We may even anticipate that in the distant future a thermo-electric engine may not only be used as an auxiliary, but in aplete substitution of the steam engine, But it is not alone in connection with a bet-ter utilization of the heat of combustion that hermo-electricity bears so important an aspect for it is only the want of an efficient appearance in or converting near into electricity hat prevents our using the direct heating action of the sun's rays for motive power. In our climate, it is true, we shall never be able to depend upon sunshine for power, nor need we repine on that account so long as we have the preserved sunbeams which we possess in the condensed and portable form of coal; but in regions more favored with sun and less provided with coal, the case would be different. The actual power of the sun's rays is enormous, being computed to be equal to melting a crust of ice 103 feet thick over the whole earth in a year. With-in the tropics it would be a great deal more; but a large deduction would everywhere have to be made for absorption of heat by the atmosphere. Taking all things into account, however, we shall not be far from the truth in assuming the solar heat, in that the truth in assuming the solar heat, in that part of the world, to be capable of melting annually, at the surface of the ground, a layer of ice 85 feet thick. Now let us see what this means in mechanical effect. To what this means in mechanical elect. 10 melt I pound of ice requires 142.4 English units of heat, which, multiplied by 772, gives us 109,932 foot pounds as the mechanical equivalent of the heat consumed in melting a pound of ice. Hence we find that the solar heat operating upon an area of one acre in the tropics, and competent to melt a layer of ice 85 feet thick in a year, would, if fully utilized, exert the amazing power of

oo horses acting for nearly nine hours very day In dealing with the sun's energy we could afford to be wasteful. Waste of coal means waste of money, and premature exhaustion of coal beds, but the sun's heat is poured upon the earth in endless profusion—endless at all events in a practical sense; for what ever anxiety we may feel as to the duration of coal, we need have none as to the dura-tion of the sun We have therefore only to consider whether we can divert to our use so much of the sun's motive energy as will repay the cost of the necessary apparatus, and whenever such an apparatus is forthcoming we may expect to bring into subjec-tion a very considerable proportion of the 4000 invisible horses which science tells us are to be found within every acre of tropical ground. But whatever may be the future of electricity as a prime mover, either in a dominant or subordinate relation to heat, it is certain to be largely used for mechanical purposes in a secondary capacity—that is to say, as the offspring instead of the parent of motive power. The most distinctive characteristic of electricity is that which we express by the word "current," and this

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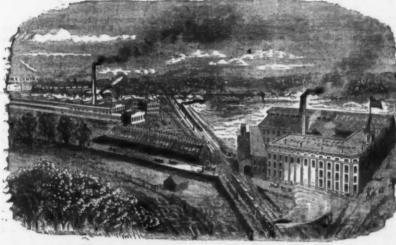
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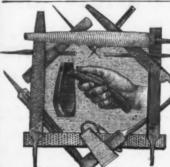
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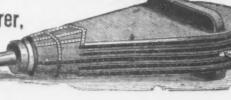
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here the length is great, because its secon must be increased in proportion to the ngth, to keep the resistance the same. It nust also be large enough in section to pre-ent heating, which not only represents loss,

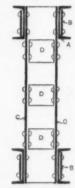
it impairs conductivity. To work advantageously on this system, a igh electro-motive force must be used, and his will involve loss by imperfect insulation, acreasing in amount with the length of the increasing in amount with the length of the line. For these reasons there will be a limit to the distance to which electricity may be profitably conveyed, but within that limit there will be wide scope for its employment transmissively. Whenever the time arrives for utilizing the power of great waterfalls, the transmission of power by electricity will become a system of vast importance. Even now small streams of water inconveniently situated for direct application may, by the adoption of this principle, be brought into useful operation. For locomotive purposes also we find the dynamo-electric principle to be available, as instanced in the very interesting example presented in Siemens's electric railway, which has already attained. tric railway, which has already attained that degree of success which generally foreshadows an important future. It forms a combined fixed engine and locomotive sys-tem of traction, the fixed engine being the generator of the power, and the electric engine representing the locomotive. Steam power may both be transmitted and dis-tributed by the intervention of electricity tributed by the intervention of electricity but it will labor under great disadvantage when thus applied, until a thoroughly effec-ive electric accumulator be provided capa-ble of giving out electric energy with almost unlimited rapidity. This will be especially the case where the power of the stream is required for electric lighting, which in summer, when the springs are low, will only be required during the brief hours of darkness, while in winter the longer nights will be met by a more abundant supply of water. Even the fitful power of wind, now so little used, will probably acquire new life when aided by a system which will not only collect, but ualize the variable and uncertain power xerted by the air.

In conclusion, I may observe that we can scarcely sufficiently admire the profound in-restigations which have revealed to us the strict dynamical relation of heat and elec-tricity to outward mechanical motion. Up to this time our knowledge of energy is a ost confined to its inorganic aspect. its physiological action we remain in deep ignorance, and as we may expect to derive much valuable guidance from a knowledge of nature's methods of dealing with energy in her wondrous mechanisms, it is to be hoped that future research will be directed to the elucidation of that branch of science which as yet has not even a name, bu which I may provisionally term "Anima

Fabrication of Superstructure of the East River Bridge.

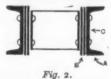
Looking at the East River Bridge, it eems to the casual observer as though he structure was nearly completed, but, although the main although the ables by rope suspenders, and generally connected by what are called bridging trusses, described below. The contractors have now delivered almost all the principal floor beams, main truss bottom rds for about 400 feet each way from the owers, three-quarters of total number of bridging trusses, besides some main truss posts, as well as almost the entire lot of ander floor connections for wind bracing.

The main floor beams are continuous lat-ice girders over five openings, and are 32 nches deep and 86 feet long out to out. They are built up of channels and flat bars, chord consisting of two 6-inch 41-lb. hannels back to back (Fig. 1, a), strength-

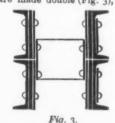


ed at the points of greatest momenta by plates 14 inch thick, fitting the groove snugly, b. The diagonals c are composed of flat bars, varying from 5-16ths to 1/2 inch i thickness, and from 3½ to 4½ inches in width. When in compression these bars are prevented from buckling by bent plates, d, which are riveted between the flats in any diagonal. This arrangement obviate the use of angles, which are generally very uneconomical, from the lack of space in which to put rivets to connect the different members, also securing the lightest and strongest truss at the expense of cost and acrease of shop work. However, as light ess and great strength were primary ob ets to be attained, this plan was adhere to, although an unusual one, for in mor ngineering structures economy in first co generally considered more important than generally considered more important shall ghtness or even strength. Here the lasonry had been laid and cables built, efore the present superstructure was de-gned, and this imposed upon the engineers ightness signed, and this imposed upon the engineers a condition which, as a rule, does not occur—and very fortunately too. This bridge has been so long in construction that the problem has changed considerably from what it was when first conceived, so that what it was when his conceived, so that originally designed for a highway bridge, it has now been transformed into a railway and highway bridge, all loads having been taken so large as to cover engines up to 40

lay, it was considered advisable to make it day, it was considered advisable to make it amply strong to do such duty. On account of their great length, the floor beams are spliced in the middle, so as to facilitate handling in the shop and field and during erection. They are supported at four points by suspenders, consisting of steel wire ropes when long and rods when short, attached to the cable, and provided with adjusting screws to regulate the hight of floor. The main truss bottom chords consist of 9-inch

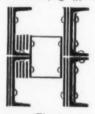


channels, a, from 60 to 70 pounds per yard. strengthened by ½-inch or ½-inch plates, by inches wide, according to the strains to be carried. Where, however, the thrust due to over-floor strains to be to over-floor stays becomes excessive, the chords are made double (Fig. 3), consisting



of 9-inch channels riveted flange to flange, and also strengthened by plates. This is, of course, an unusual and not a very good man-ner of building up a chord, but as it was a consideration to limis the number of shapes to be rolled, this method was adopted to avoid rolling a 15-inch, or even larger sizes of channels

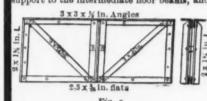
At distances 71/2 feet apart the chords are At distances 7% feet apart the chords are strengthened by a plate, to make up for section lost by cutting away material for pinhole, and also to obtain ample bearing surface for the pins. Where these chords run through the towers, it became necessary to reverse the channels (Fig. 4), which touched



the masonry, turning the flanges inward in order to ecomonize space. By this means some 8 inches were gained in the width of some 5 inches were gained in the width or carriageways. As the rule, these chords are divided into sections 30 feet in length, to be spliced in the field. This length was adopt-ed to avoid rolling very long channels, Subthat there was no difficulty in rolling much longer pieces, and greater length of chords would have saved considerable laber in con-struction, as well as in the shop, although handling would have been somewhat more expensive.

The reason why the bottom chords are not composed of eye-bars, as in truss bridges generally, is that the over-floor stay system brings heavy compressive strains on the as the system of stays extends, the bridge may be considered as a cantilever, balanced, on account of symmetry of structure, on

on account of symmetry of structure, on both sides of the towers. The bridging trusses, Fig. 5, take the place of stringers in other bridges, giving a middle support to the intermediate floor beams, and



re small inverted king-post trusses, 7 feet ong, built up of 3 x 3 x 1/4 and 2 x 1/4 and 3-32ds, 3 x 9-16ths and 3 x 5-16ths flat bars, panning the space between principal floor they are riv end. There are six lines of these trusser running the whole length of the bridge laced centrally one under each line hicles and cars.

The truss posts are composed of two 6-inch o-pound channels, connected by lattices inclined about 45 degrees, but these differ from posts in almost all other bridges, in that the channels are turned flange to flange, o as to obtain the greatest strength with st width of post, without cutting away the flanges at top and bottom where they enter and pass between the chord channels. Where the truss diagonals pass through these posts the lattices are omitted, so as to leave an opening about 17 inches long at the weakest point of the post, where the lattice connection ought to be strongest. The under-floor connections for wind bracng, are steel bars 7 inches wide, varying from 16ths to 1 inch in thickness, with eyes at either one or both ends, bent in the required direction; and are secured to the ends of the bottom chords of either two or three floor-beams, according as they connect with the under-floor diagonals or stays. under-floor stays are ropes connecting the floor beams with the towers and anchor-ages, while the diagonals are those crossing ten panels, and from one side of the bridge ten panels, and from one side of the bridge to the other connecting with the bars that have an eye at each end.

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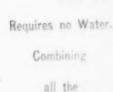
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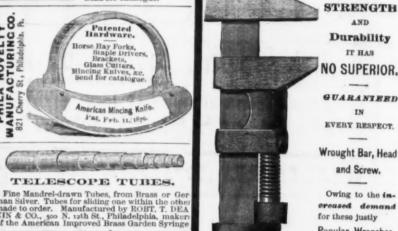
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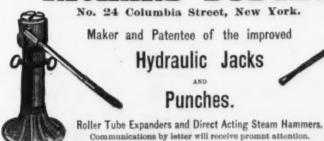
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ounds. These test pieces are cut from the equired section. All ingots giving satisfac-ory results are cut up into blooms large anough for the particular shape and piece to nough for the particular shape and piece to be rolled from it, allowing about 15 per cent. on channels and I-beam blooms for waste in reheating and cropping, but conderably less for flat bars, plates and angles. An attempt was made to roll with out 10 per cent. allowance for waste on hannels but it we found to be to swall. channels, but it was found to be too small a pargin. The blooms being cut into the proper weight and hammered down to the required dimensions, they are shipped to the Midvale Steel Works, at Nicetown, Phila

equired shapes.

Although the material rolled is generally ory correct in weight and perfect in secon, as well as superior in surface, there e some exceptions which have given con derable trouble. All shapes are, however far superior to anything ever rolled in iron All edges are sharp and smooth, and eac biece is very uniform in section throughout Flaws or defects occur very rarely, excep the crop ends, where the material is ofte lapped "—i. e., two edges have been rolle gether so firmly that the seam between ogether so firmly that the seam between them, although deep and clear, is not easily liscernible. Knowing, however, where these defects occur, it is easy to find them, respecially as any work on them invariably ens them out.

delphia, Pa., where they are rolled into the

The principal trouble with the channels and I-beams is their crookedness, and in that espect considerable improvement is possi de. Many g-inch channels had a verse ine of more than 4 inches in 30 feet when sine of more than 4 inches in 30 feet where standing on edge, and such great curvature would invariably show in the finished work, for cold-straightening was not permitted, although sometimes resorted to. Six-inch channels were worse than the above, but eing light in section could easily be straight the 6 inch 1-beams, being not crooked, but also having a wind, les having their tables unsymmetrical to the web, so that one groove is somewhat leeper than the other. All flats and plates are very straight and smooth, and even of wide and very long ones, there were but a few that were badly curved. In every wide plate (16 inches) the thickness varies consid

rably, sometimes as much as ¼ inch.
From Midvale the steel is shipped to Edge
foor, there to be fabricated into the strucre. The first work to be done is to cove ne material with a coat of raw linseed oil orimarily to protect it from corrosion, as a the site of the bridge the salt sea air has great effect on all metal work, and must be well guarded against. On account of the alacrity with which everything is done at the bridge shops, the material is often ex-posed to the influence of the weather for weaks, and even months, before being oiled, so that it is often badly affected by corrosion efore being used

count of the enormous amount On account of the enormous amount of luplication in a structure of the magnitude of the one before us, each piece of a compound member is made by the hundred or thousand before anything is assembled, and special tools are often needed to perform ertain kinds of work. Thus, a compound ounch and shear was adapted to form the inds of floor beam lattice bars and bridging truss diagonals (Fig. 6) all in one operation. This put upon the machine the task

of shearing about 7½ square inches of netal when a 4 x½-inch bar was cut, as here were four 5½-inch holes to be punched and 8 inches lineal of bar to be sheared. With steel shearing at 70,000 pounds per square inch, this amount of work exceeded he capacity of the machine considerably, and consequently it was continually underand consequently it was continually under-going repairs when heavy work was done. The machine, to do this, was a Wm. Sellers 2-inch punch; driving-pulley, 36 inches liameter; width of belt, 7 inches; speed, 356 feet per minute, the die making about strokes per minute; and at different s the gear-wheel, cam-shaft, and even he cast-iron frame, broke, because of the excessively heavy work put upon it. Condering that such important repairs often equired a week's work, besides considerable lay of money, it is very doubtful whether ere was any real economy in using such ecial tool, more especially as the work dinary manner.

The bent plate separators d, Fig. 1, are bent tin a hydraulic press after the rivet holes not in a hydraunic press after the rivet most re punched and the plates cut off to cor-ect length. After a large number of these lates have been made, the lattice bars are iveted to them, and the diagonals are ready to be assembled with the chord channels and to be assembled with the chord channes and lates. This done, the whole beam, being rmly bolted together and having all holes rell matched, is taken into the reaming hop, where all rivet holes are reamed out. well matched, is taken into the reaming shop, where all rivet holes are reamed out to their proper size. On account of the upsetting the eyes on the bars by hydraulic great injury done to steel by punching, all rivet holes are punched ½ inch smaller than handling and forming the bars, as over-ustomary, to be afterward reamed out to exact size. Thus, a hole for an 11-16ths-inch diameter, and found that the metal would make folds in reamed out to ¼-inch diameter, and found that the metal would make folds in reamed out to ¾-inch diameter. Experiments on a number of 3½-inch x ½-inch were made. Though the eyes now made are diameter, punched and not reamed, reduced strong, they all show signs of defective the strength of the bars from \$1,000 pounds per square linch, with an telastic limit up to \$5,000 pounds per square linch, with an elastic limit up to \$5,000 pounds per square linch, with an elastic limit up to \$5,000 pounds per square linch, with an elastic limit up to \$5,000 pounds per square linch, with an than upset eyes ought to be.

Up to the present time about 2500, out of the inch holes and reamed out to ¼-inch diameter, the reduction of strength of bars, due to shearing, was never determined experimentally, although the surfaces and edges of the bars showed similar injury to material to that which was incident to punching.

Nothing seems to be so detrimental to a finish the erection, laying of floors and some steel structure as carelessness or ignorance a minor matters, the bridge will hardly be

ut a trace of phosphorus. The mechanical of the manufacturers and workmen. Cold ests show a tenacity of more than bending hammering, drifting, and punching 5,000 pounds per square inch on bars and shearing ought to be strongly condemned f section I inch square, I2 inches long be- and not tolerated in any instance, although ween supports; limit of elasticity about it is a very difficult matter to break the men 3,000 pounds, and elongation varying from of such pernicious habits if they have been not less than 15 to more than 20 per cent., accustomed to work on iron, or, still worse, with a modulus of elasticity about 28,000,000 when such work is going through the shop when such work is going through the shop at one and the same time with steel. So far as experience goes, there appears to be no appreciable difference in strength of steel with or across the direction in which the material is rolled, but holes must not be put oo close to sheared edges, unless the injured naterial has been removed.

The primary object of reaming rivet holes is to remove the injured material and re-store it to its original condition, but, as it is almost equally important to avoid drifting, the work is first assembled and all parts reamed in their places. This insures smooth holes, although sometimes, when the holes are not well matched, they incline more than 22 degrees to the surface of the piece, thereby making very poor rivets, which give considerable trouble. To prevent shifting of any part having several holes in it, a smooth bolt is passed through the first hole reamed, hich remains in place until all the other ples are riveted up. All chords are punched, ssembled, reamed and riveted up in a simlar manner, and are then complete, except fitting up the ends and boring the pin holes, besides doing all handwork that may be und necessary, and which cannot be done machinery. Each chord splice was caremachinery. Each chord splice was care-illy fitted, then reamed in place, and finally riveted up. Although all bottom chords were to have butt-joints, it is the exception to have them thus on account of inferior workmanship; but fortunately the rivet strength is sufficient to transfer all strains, mpressive as well as tensile, and does not

make butt-joints imperative.

As the bridge floor and trusses are not horizontal, but on a grade over the entire structure, to obtain a sufficient hight in the middle of the river without starting too far back with the approaches, all trusses and bridging are necessarily built on a grade, so as to make them rhomboidal instead of rectangular. But as all posts and floor beams must stand vertical, the angles of bridging trusses ought to be very nearly correct; for, if their length is as exact as it appears to be, fillers cannot be inserted to correct the angle, as they would add their own thickness to the length of bridge. In the present ondition of the structure, the floor beams are far from vertical, on account of incor-ectness of bridgings, and it will be difficult, not impossible, to correct that defect, estibly the flexibility of posts and floor ams will allow for this variation.

Bridgings and posts are fabricated in a milar manner to that adopted for floor eams and chords. In the posts which are serted between the chord channels of floor eams, and also the main truss bottom and top chords, a number of rivets have had to be countersunk flush. As the machine rivets are rarely driven flush, it became necessary to chip the countersunk heads, and when the attempt was made to do so, it was discovered that in numerous instances the steel had been hardened to such an ex-tent that cold chisels could not be tempered sufficiently to more than nick the rivets, and after considerable delay they had to be round off flush with the adjacent surface. hese rivets had probably been hardened by oming in contact with a piece of cold metal, coming in contact with a piece of cold metal, which was placed between them and the riveter jaw to avoid changing the die, or by the chilling effect of water dripping upon them from leaky joints in the hydraulic riveters used at the bridge shops. This same thing sometimes happens with iron rivets, but is of such rare occurrence that no attention is paid to it. When steel is used, however, great care ought to be exercised to avoid the occurrence of hardened rivets, especially where they are countersunk. In rolling channels the same thing was noticed. olling channels the same thing was noticed, and occasionally gave considerable trouble when punching was attempted, for with such hard material the punches were gener-ally ruined, although in several instances were broken out of the channels.

In addition to what has been said above bout the injurious effect of punching steel, about the injurious effect of punching steel, another point ought to be mentioned, as it gives very much trouble in riveting, especially when done by hand. When punching ginch channels, in which the lines of rivets were separated 4½ inches, they would become curved across the back to a versed sine as much as 3-16ths inch, making it al most impossible to rivet together two 90ntact so as to drive good rivets. and q-inch channels this defect was not uite so troublesome, although apparent. An ered straight, but a steel channel with a ost 34-inch web was too stiff to be treated in his manner. All material was, however, bent similarly, and this defect is apparently produced by the great local pressure required punch a hole, and by the insufficient or nly partial bearing of the work on the lower ie. By observation and measurement of the ring of polished and compressed material around a hole, it was found that the heaviest pressure did not spread more than 3-16ths inch from the edge of the hole. This ring of material was evidently subjected to excessive strain, and the whole of it ought to have been removed by reaming.

The under-floor connections are made by

steel structure as carelessness or ignorance iminor matters, the bridge will hardly be

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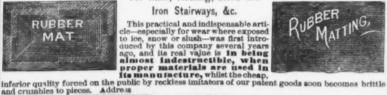
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mpleted before the early part of 1883, with everything favorable. rith everything favorable. Allowing, how-ver, some time for delays, such as have courred during the past two years, it will reachable at the control of the course of the robably be the Spring of 1883 before the reat bridge will be complete in all its tails and ready for use.

Recent Trade Mark Enactments.*

Ohio .- The name "Domestic," applied t bread, may become a trade-mark whose in fringement will be enjoined. Smith w Curnan, 5 Cinn. Law Bulletin, 145; Super Court. Cinn. ourt, Cinn.

Pennsylvania. - Morse vs. Wornee (10 Phil Rep., 168, 1874). This was a motion for a preliminary or special injunction during pendency of the trial. The plaintiff used at a trade-mark the words "The Rising Sun." a trade-mark the words "The Rising Sun."
The defendant put up goods on which he
affixed the words "Rising Moon." The
court said "the defendant's label, in my
judgment, lies very close upon the border.
We will determine on which side of the line is after the plaintiffs shall have estab it is after the plaintiffs shall have established their right at law or upon final hear
ing." The case came on to be heard in
1875, and a perpetual injunction was granted
against the defendant. It was also decreed
that all copies of the counterfeit trademark, and all plates for producing the same,
should be given up to be destroyed, and
lamages and costs.

Wisconsin.—Liedersdorf vs. Flint (50 Wis.,
401, 1880). This was in an action to restrain

101, 1880). This was in an action to restrain defendant from using a trade-mark allege to have been devised by him in imitation of that of plaintiff, and to be, in fact, deceptive to purchasers, &c. Fac similes of th wo trade-marks were annexed to the co laint. It was held that on demurrer it wi ot be decided; that the one is not sufficient y similar to the other to mislead and to constitute an infringement, unless the di milarity is so marked as to leave no doub in the mind of the court; but the question of infringement will be reserved until the

coming in of the proofs.

United States.—Federal Courts.—What
may Become a Trade-Mark.—The word
"Yankee," applied to a soap. Williams vs.
Adams, 7 Reporter, 613.

The word "Parabola," applied to needles.

oberts vs. Sheldon, 18 O. G., 1277, N. D. of Ill., 1879. What Cannot Become a Trade-Mark .-

of lines marked or stamped upon igs of tobacco. Dansman & Tobacco Co. vs. Ruffeur, 1 O. G., 559; N. D. of Ill., 1878.

Letters and figures affixed to merchandis a manufacturer, for the purpose of denot-g its quality only, cannot be appropriated by him to his exclusive use as a trade mark
Manufacturing Co. vs. Trainer, 101 U. S
Sup. Ct. Ref. 51, 1879. (See Amoskea,
Mfg. Co. vs. Spear, 2 Sandf., 599, 1849.)

When an Injunction will be Granted.-The plaintiff's firm had long been accustome o pack a compound called "Hamburg Tea" n long cylindrical packages with pink wranners and the bare is clusson paper of hirections, and yellow ones of warning, tied irrections, and yellow ones of warning, tied in with each package, and their firm name printed across a white label within a circle pasted across the ends of the string, and the same embossed with the words "Hamburg, Hopfensack, 6," on another white label pasted on the package, so that the package, by its form and colors, would be at once known by its general appearance, without taking time to read anything on it; and taking time to read anything on it; and their wares had come to be well known as theirs by the appearance of the packages. B. openly used such style of package and firm name to put up Hamburg tea. He then liscontinued the use of the firm name, and of the words "Hopfensack 6," but continue to use the exact form and style of package substituting his own name merely for that of the firm on the labels: Held, that, with the proper parties before the court, B. ought the proper parties before the court, B. ought to be restrained by injunction from such use of the symbols (see same case, motion for injunction, 13 Blatch., 234. 1876). Frese vs. Bachof, 14 Blatch., 432; S. D. of New York,

A person has no right to mark his good; ith any words or terms indicating tha rith any words or terms indicating that hey are manufactured under a patent which does not own and has no right. Wash-rn & Moen Mfg. Co. rs. Haish, 18 O. G.,

465; N. D. of Illinois, 1879.

The general rule is to enjoin when the imitation is so close that by the form, marks, contents, words, or their special arrangement, or by the general appearance of the infringing device, purchasers exercising ordinary caution are likely to be misle into buying the article bearing it for the enuine one. It is not necessary, to entitle party to an injunction, that a particular rade-mark has been infringed. To satisfy trade-mark has been intringed. To satisty
the court that the respondent intended to
represent to the public that his goods were
those of the complainant, is sufficient. McLean vs. Flemming, 96 U.S. Supreme Court,
245. Sawyer vs. Horn, 1 Federal Rep.;

d., 1880. When an Injunction will be Refused.—E. & T. Fairbanks & Co., manufacturers of scales, alleged that J. made scales, by using, to make the iron castings thereof, the corresponding parts of a scale made by them, to form the molds for those castings, and that the general shape and arrangement, and color and external appearance of such scales were imitated from the Fairbanks scale so nearly that only an expert in scales could listinguish the difference between them. The words "Fairbanks patent" were cast on the scales made by both parties. All the patents which Fairbanks & Co. have had had expired. Fairbanks & Co. applied for an injunction to restrain J. from using the Fairbanks & Co., manufacturers of scale an injunction to restrain J. from using the words "Fairbanks patent" on his scales, and from making or selling an imitation of Fairbanks & Co.'s scales: Held that the new City Hall in Albany. The mast is 70 application must be denied; that the words feet high and the boom is 75 feet in length. "Fairbanks patent" were not a trade. By its use stone weighing less than 10 tons "Fairbanks patent" were not a trade-By its use stone weighing less than 10 tons mark; and that J. did not represent his can be lifted from the street and swung to scales to be of the make of Fairbanks & Co. Tany corner of the building.

Fairbanks vs. Jacobs, 14 Blatch., 337; S.

Proof that the trade-mark is deceptively sed by the complainant, and the public is afrauded by his sales, defeats his claim to n injunction. Manhattan Medicine Co. vs. Vood, 14 O. G.; Me., 1878. Seabury vs. rosvenor, 14 Blatch., 262; S. D. of New ork.

having a patent for an improvement stoves, acquiesced during the entire dura-n of the patent in the manufacture and e by M. of stoves containing said imon them. After the patent expired M. atipued to make and sell stoves containg said improvement, and to put the name Charter Oak" upon them, but did not present them as made by G. G. claimed e name "Charter Oak" as a trade-mark ied to stoves containing said improvent, and brought a suit to restrain the use nent, and brought a suit to restrain the use f it by M. on such stoves. Held that M ught to be so restrained. Filley vs. Child, 6 Blatch., 376; S. D of New York, 1879. An injunction will not be granted to re-

rain a manufacturer from using a label earing no resemblance to the complain-nt's, except that certain letters, which one convey no meaning, are inserted in ecenter of each, the dissimilarity of the bels being such that no one will be misled to the true origin or ownership of the chandise. Manufacturing Co. vs. Trainer,

OI; U. S., 51, 1879.

Title.—There cannot be an ownership of the same trade-mark at different places by fferent persons. Licensees under a pro ietor of a trade-mark may lose their rights disregarding the territorial limits preibed by the license for their sales; or by inquishing the use of the mark in their iness and adopting another of their own

pusiness and adopting another of their own lesigning. Manhattan Medicine Co. vs. wood, 14 O. G. 519; Me., 1878.

A right to a trade-mark may be lost by non-user for eight years. Blackwell vs. Dibrill, 3 Hughes, 151; Va., 1878.

If owners of trade-marks have been reasonably diligent in prosecuting infringers, abandonment is not to be inferred from the nfringements. Williams vs. Adams. 7 Reserved. infringements. Williams vs. Adams, 7 Reorter, 613; Ill., 1879.

A trade-mark may be owned by one mem-

A trade-mark may be owned by one member of a firm by whom goods, on which it is used, are manufactured. A trade-mark may be sold with the establishment when the goods known by it are manufactured. Kidd vs. Johnson, 100 U.S. Supreme Court,

The right of the proprietor of a trade-mark o the exclusive use of the same, and to proct and enforce his exclusive right by pro-edings in chancery, exists by virtue of the mmon law, and independently of the atute. The decison of the Supreme Court, herefore, declaring the trade-mark statute of 1870 unconstitutional, does not affect suits in the federal courts under the common aw. U. S. vs. Roche, I McCrary, 385; Col.,

Transmission of Power by Electricity n Mining .- The first instance on record of e application of electricity for the transn of power is reported from France. an market has submitted the details to the Société de l'Industrie Minérale. The St. Claude shaft at Blanzy was sunk to the depth of 500 meters (1640 feet), for the purpose of searching for a faulted portion of the coal seams, and a heading was run from it across he strata. When this heading had reached a length of 400 meters (1312 feet), the venti-ation became so poor that the temperature at the face rose to 95° F., and the miners could work only for a few hours. After some ineffectual attempts to improve the ventilation by simple means, it was decided to put in a fan 2.63 feet in diameter, and run it by power transmitted by electricity. An 8 to 10 horse-power portable engine was out up above ground, and, with a Gramme lynamo-electric machine, was run at a speed of 1200 revolutions per minute. The elecric current thus generated was conducted by a cable, consisting of seven o.o44-inch copper wires, to a second Gramme machine upled directly with the fan, and placed in e heading near the shaft. Running at 700 o 800, it required 2½ horse-power, the use-ul effect being at least 60 per cent. The emperature at the face was only lowered degrees, but the men could work in eight-The return current was conacted from the underground machine by an on wire cable. The cost of the whole plant a stated to have been only one-third of what machine for delivering compressed air to the heading would have required.

Wilmington, Del., is one of the oldest nd most successful manufacturing towns in ne Middle States. During the census year he Middle States. During the census year anded June 1st, 1880, there were 239 manucturing establishments in the city of Wil-ington, with an invested capital of \$8,218,-5: number of hands employed 5050-the verage being 5299—of whom 4659 were nales over 16 years of age; amount paid in wages, \$1,757,013. The amount paid for raw material was \$5,338,692, and the value of product \$8,216,858. Shipbuilding, iron, and a few other industries are not included in the above figures.

A London correspondent, under date of Aug. 15, sends the following approximate figures of ships and engines building in Great Britain, from Lloyd's surveyors' returns to June 30, 1881: Total number of turns to June 30, 1881: Total number of iron ships building in the United Kingdom, June, 1881, 550 of 900,000 tons; total number of steel ships building in the United Kingdom, June, 1881, 50, of 120,000 tons. Gross tonnage, 1,020,000 tons. Total number of marine engines, 526, of an effective horse-power of 500,000.

**Do f N. Y., 1877.

**Prepared by Francis Forbes, Counselor at ain the United States are six in number, and Law for the United States Trade Mark Associate located at the following places: Berkstation For statutes prior to 1879 see The Iron Sphire County, Mass.; New Albany, Ind. 4ge of Dec. 11, 1879; Dec. 18, 1879; Dec. 25, 1879; Jeffersonville, Ind.; Louisville, Ky.; Crystal Spc; Jacobs 19, 1880; May 13, 1880; May 20, 1880; May 20, 1880; May 20, 1880; May 20, 1880; May 3, 1880; May 20, 1880; May 4, 1880; May 5, 1880; May 5, 1880; May 13, 1880; May 20, 1880; May 6, 1880; May 13, 1880; May 20, 1880; May 8, 1880; May 13, 1880; May 20, 1880; May 8, 1880; May 13, 1880; May 20, 1880;

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New York, Thursday, September 22, 1881

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The recent accidents to the shafts of several steamers, notably to the screw shaft of

horses have. That time once up the iron built to carry, and they know how far those cars are made to travel. When the shafts beneath these cars have run ou their natural lives the railroad men throv them out, although there may be no visible defect in them. Iron has a way of crystal lizing in process of time, and often when a much-used piece of it breaks you can find no flaw in the material-no apparen reason for its giving way. To obviate the danger we make our shafts a little larger and, as I tell you, none of them have broken." While Mr. Roach has made som arge shafts, we are not sure that he has nade any as large as those of the Catalonia and Servia. However this may be, essels are to increase in size, and speed be ught, it will do no harm to consider the advisability of using other methods of makng shafts than forging.

The Nation's Bereavement.

The tolling bells which broke the stillness of Monday night, proclaimed so much with ron tongue and brazen lips, that there renains but little for the journalist to say. The President is dead! Our best hopes are lisappointed, our worst fears realized. Through eleven weeks of anxiety the nation as watched by the bedside of the suffering Chief Magistrate, alternating between chee and gloom-now with smiles when the phy icians spoke hopefully, again with tears when some new danger menaced the life which had become so dear to the people. All that is left us now is a cherished memory and it must thrill the heart of every citizen with worthy pride to know that his ory will find in the story of his life a noble example of that which is worthiest and best n the typical fruits of American civilization President Garfield was in the fullest sense epresentative American. Born in poverty the son of a farmer; fighting his way steadily upward and onward in the face of difficulties which would have discouraged veaker nature; rising step by step to posions of dignity, trust and honor; advance ng from local to national prominence or the claims of personal merit and trustworthiness; chosen to the Presidency by an inquestioned majority,-his life, up to its rowning event, was not unlike that of any another great and good man of whom our people are justly proud. Perhaps in ose with whom he can properly be com-His ripe culture, indomitable energy road statesmanship, modest demeanor an acknowledged personal purity, are qualities which few men attain. The respect of e nation ripened into love when his heroid fortitude and unfaltering courage were made nanifest by the terrible tragedy of July 2 and he will live in the hearts of his country en with the great and gentle Lincoln, with whose life and death his offers a strang

But he is dead! The trusted hand r nger guides the ship of state; the watch 'ul eye and calm judgment of the ripe states nan no longer mark or direct her cours What of the future? Already his high office filled by his constitutional successor There is and will be no shock or panic every man goes calmly about his affair with confidence that this change of adminis ration is the least of the dangers throug which the republic has passed safely. Muc s we loved and trusted the President who ead, much as we deplore his death as national calamity, none the less are we loyal o our country and earnest in our wish and wil to support his successor. The weary weeks of the President's fatal illness have not been ithout benefit. We have had time to thin Our fears have subsided, our passions cooled our hopes revived. They have, let us believe een fruitful of benefit to the man who has ood a silent spectator, waiting the sumons to take the solemn oath of the Presi ential office. He has learned the hearts of the people, as well as the will of the people He has seen how easy it is for the Presiden who does right to win and hold, not only the onfidence and respect, but the love of the american people. On the one hand he has en arrogance humiliated, pride discomfited solent pretension rebuked; on the other and he has seen the whole people, forget ng party distinctions, kneeling in prayer or the dying President, with earnest suppli ation for his recovery. He, too, has had time to think. What he has thought no mar ows, but who can doubt that his thinkng has been of benefit to himself and he nation. He cannot have failed to see at should it devolve upon him to assume the duties of the high office for which another was chosen, his future would be wholly in his own hands. Assuming the Presidency untrammeled by obligations, at a time when the Catalonia, and the discovery of a flaw in party strife is subdued by national grief, old falsehood that the Pittsburgh mill own the crank shaft of the Servia, have drawn, and when the whole American people stand ers encouraged the Cincinnati strike, an

have built 64 steamers, and not one of Of a man untried in positions of official them has had a broken shaft. Iron has trust and responsibility we might have its time of usefulness, just as men and doubts; of President Arthur we have only confident hopes, and in the rame of the busimust be born again. Our railroad men ness community we tender him the assurunderstand this law. They know how ance that he will enter upon his administra-much weight one of their freight cars is tion with the sympathy and support of all good citizens

The Coming Telegraph War.

There can no longer be any doubt that the

position threatened at the outset against ne combination of the Western Union and American Union telegraph companies, likely to become formidable. It is claim that the lines already united for this purpo mprise 50,000 miles of wire, and that within a few days they will cover a territory extending from Baltimore and Washingto o St. Louis and St. Paul, as well as man mportant points in the Dominion of Canada, while the Eastern Telegraph Company, Maine, and the Rapid Telegraph Compa of New York, will form nuclei for furthe extensions. Thus it appears that even so called great monopolies are not omnipotent and that it is possible not only to form, but o maintain, competing organizations, despite the engulfing and centralizing power of accumulated capital. The Western Unio nanagers, however, do not betray any great alarm. It is charged by their rivals hat their position is weak; that even who Mr. Vanderbilt was in control it was with difficulty that he paid 7 per cent. on \$40,-000,000 capital, and that now to pay 6 pe ent. on \$80,000,000 is utterly impossible Further, it is charged that the Gold and Stock Telegraph, formerly a source of larg revenue, and also the Cuban Cable and ther valuable properties, have been sold, and the cash proceeds put into the revenue account to keep up appearances. The president of the Western Union, in rebuttal, s reported as saying that, notwithstanding ales of this character, the company hole nore of those stocks than at the time of the ast annual statement, besides buying out the Montreal Telegraph Company and lines built along the California and Oregon Raiload, which will soon be opened for business, not to speak of other pur-chases equally important, so that the Western Union now controls between 20,000 and 340,000 miles of wire. This company is certainly a tremendou ower to contend with, even if we admit. affirmed by Mr. Rufus Hatch, that the whole system could be duplicated for \$20,000,000. Perhaps, too, as charged by Mr. Hatch, the lines are far from perfect. It is well known to all electricians," say this gentleman, "that wire after a certain time deteriorates, loses its conductivity and becomes so susceptible to the slighte disturbance in the atmosphere that messages are delayed and lost. The wire, in fact, becomes old iron." After making all deductions, the Montreal Union Company which will open for business next month, has hand a large undertaking. Mr. Ger m. Ballou, the president, says their line vill connect five-sixths of the large-commer ial business centers, and will open to Chigo with no less than sixteen wires-possi bly twenty-and add to those as fast as eeded. He says :

We enter the telegraph field for the purpose wing the public a vastly superior, quicker and tter service in every way, at the same rates to gin with, which, however, may be reduced from ue to time as fast as the public, by their confi-nce and patronage, may enable us to do so. Our es will be rapidly extended all through the nter to every point that can be made profitable and the company intend to furnish private wire etween principal points for firms and individual ho may be willing to rent them on reasonable from. The work of construction, even after our pening next month, will be pushed forward in al ctions, and as fast as the business warrants wires will be strung up, to give the public dant facilities for all the business we may be ns, and as fast as the busines

Mr. James Keene is known to be associ ated in the new enterprise, and Mr. Wm. Vanderbilt is suppo sad to h the backers. Competition of this kind, if an be sustained, will ultimately give u cheaper and more satisfactory telegraps acilities; and if these must be secured b viping out some millions of watered stock presenting a fictitious valuation of the operty of the Western Union Company, no advantage will result from delaying this pro ess two years or ten. The question of terest to the business community is not whether telegraph service is now as cheap as the Western Union Company can afford out whother it is as cheap as it could be an ay interest on a capital representing the tual value of a telegraph plant. The vatering of stock ultimately leads to this ind of competition, and companies heavily andicapped with stock issues representing ictitious capital, are always vulnerable to the attacks of competitors not thus burden with the necessity of earning interest or tock dividends.

The St. Louis Age of Steel, in its issue of eptember 3, in an article full of misstate ents and misrepresentations, returns to its old falsehood that the Pittsburgh mill own the crank shaft of the Servia, have drawn and when the whole American people stand ers encouraged the Uncinnati strike, and the attention of shipbuilders to these as the ready to support and sustain him, he has a now adds to it the further falsehood that weak points of great vessels, and led to magnificent opportunity. We have faith part of the contributions sent to aid the strikthe question if, with our present modes of in him. We believe that he has felt ers was furnished by the Pittsburgh mill manufacture, we have not reached the limit the responsibility of his position before the cowners. The editor tries to shield himself be of increased size in these vessels. John people too long and too keenly to be misled him an "it is said," but this does not help

that of a committee of these manufacturers who stated this fact positively to us. Now will the Age of Steel state who makes the ssertions it claims are made. Failing in this, it will confess that its claim to veracity is not worth vindicating.

The Position of Lead.

Until within a month or two lead was com aratively dull. The long and severe winter oiled the spring trade in this article, and ed to a good deal of disappointment, causng the metal to drop to 41/4 cents in May and June, but the building activity, so long estrained, soon developed with greater igor throughout the country, and an uninerrupted and increasing demand for lead on grew up, which has gradually, without ach aid from speculation, carried the price yond what it was early in the year. llowing table will show the course of the arket in 1880, and so far the present year :

PRICE OF C		ER 100 POU		1881.		
	Lowest.	Highest.	Lowest. I	lighest.		
January		\$6,00 6,00	4.87%	4.95		
February			4.65	4.85		
March		5-95		4.85		
April		5-75	4-45			
May	4-50	5.25	4.25	4.62%		
June	4 50	4-75	4.25	4.37%		
July	4.50	4.75	4.37%	4.90		
August		5.00	4.75	4.90		
September		4 90	4-95	5.25		
October	4.65	5 00		****		
November.		4.85	****			
December		4-75	****	****		
Tax Pascal	and the	nrino al	en fell below	what		

was last year, but is now recovering. The verage there during the past seven years as been in each year as follows :

VERAGE PRIC	E OF	GOOD	BOFT	ENGLISH	PIG	LE	A)
IN THE	LON	DON M	ARKET.	-PER TO	N.		
	£	s. d.			£	S.	d
880	. 16	5 10	1876		. 21	15	(
879 878	. 14	18 7	1875		. 22	5	1
878	. 10	17 4	1874		. 31	6	- 1
877	. 30	13 0	1880-19	374	. 19	3	1
MPORTS INTO	AND I	EXPOR	TS FRO	M GREAT	BRI	LAI	N.
		ports.		rports. Tons.		Tor	
876	8	0,713		35,921		44.2	19
877	9	4,412		42,465		51,9	
878	10	0,233		34,385		65,8	
879	10	B, 140		36,776		65,3	
880	9	5,202		33,047		6x,	
881, 7 months.	5	7,430	1	24,868		33,5	;6:

The excess of import into England, which ached its maximum in 1878 and 1879, i will be seen has since decreased somewhat and at the rate for the first seven months would this year be reduced to 55,820 tons This may have contributed to the recent ecovery in value in London. The fact is, hat since the termination of the Carlist ebellion, Spain has turned out lead at the ate of 90,000 to 100,000 tons annually, and the bulk of this has been thrown on the London market, while there has been no extra war demand. Then came the bad rops and the relapse into dull times last year; but this summer business has been icking up by degrees on the Continent nilding is more active than usual, and the onsumptive demand develops in a rather nexpected manner. This is fortunate for ead producers, inasmuch as their output last year reached the unprecedented aggregate of 430,000 tons, taking all producing counries together. Spain, the United States, Engand and Germany turned out in 1880 no less han 365,000 tons jointly, and adding thereto Mexico, Greece, Russia, Belgium, Austria and me other countries, with a joint production of 65,000 tons, we get at the total we have Yet, in spite of this increase o given. 100,000 tons in the world's output during the ast five or six years, the price in London vas, without the interference of specu ation, higher last year than it was in 1870

s we have shown. In the United States, production increase faster than it does in Western Europe which is mainly owing to developments at eadville and other points where argentifous lead is mined. There were shipped from Leadville during the first six months of the current year, 18,103 tons of base bullion, against 15,172 tons during the corresponding period in 1880. The apprehension re producing more than v vere able to consume, and that we should erefore, be compelled to seek a market either in China or Europe at a very low gure sooner or later, in order to rid ourelves of the surplus, caused speculators for rise to leave lead alone; but developents so far this year seem to prove afficiently that current consumption has kept pace with the swelling output,

what is turned out this year, even it should reach 120,000 tons-at least this the belief entertained by many. If, how ver, the price be run up much further by peculation and Europe not advance in the me ratio, there would, of course, be som shipments this way, and a couple of thousand ns thus coming would do more harm t olders than a silent increase in Western atput of five times this amount. Anything ke an artificial excitement here is, there ore, to be discouraged under the circum tances. Lead at about 5 cents seems to be cheap enough to stimulate consumption, but as soon as it approaches 6 cents, particularly

that we shall be able to absort

Association, makes a very clear statement

if near the winter months, co

ould be materially curtailed.

ve cordially extend the same privilege to Mr. Cole. His letter will be read with nterest.

Accidents to Employees.

The first case of any importance under the nglish Employers' Liability Act has just een decided. This law, which went into peration last January, increased the liability f employers for injury to their employees, and made them liable, in certain cases, for injuries to the employees that arose from the negligence of their fellow workmen. The se at issue was one for £312 damages, for an accident arising from the alleged negigence of a fellow workman. The men ere engaged in decorating a house. In rder to reach the ceiling it was necessary to have a scaffolding of some kind, and one was made of boxes. The man who was afterward injured objected to going on it, as it was unsafe, but one of the men who was a quasi-foreman promised to hold it. The work went on for an hour or two, when e structure fell and the plaintiff's leg was The defense urged that no order o use the scaffold had been given to which he plaintiff was bound to conform. The urden of the defense was that the act was nly intended to apply to injuries caused by defects in machinery that the employer was ound to keep in order and that the mployee had no means of investigating, and did not apply to machinery or appliances that the workman made for himself. The jury found on all points for the defendant.

This result is similar to that reached in veral cases in this country that have already been reported in our columnsotably one at Pittsburgh, in which damages were sought for an accident resulting from the eaking of a scaffold at the Keystone Bridge Works. The gist of these decisions is that he employer is not responsible for the acts of a quasi-foreman, or of a man who may be eft in charge of a "job." Nor are they able for damages for an accident that esults from the weakness or breaking of a ructure, if that structure was built by the orkman, or if he could inform himself as o its strength and safety.

French Capital in Canada.

Canadians are exulting greatly in the essions of French capital lately received. onsiderable amounts having been invested various forms of enterprise. ship and railway projects, manufacturing and mining, are all being materially aided in their development, and prospects, as regards both population and resources, are such that a prominent Ottawa paper at any previous period of ther history. The explanation of this friendly manifestation on the part of capitalists in France, is said to be the encouragement offered under the national policy. enecal, who has just arrived at Quebec from Paris, is quite enthusiastic over the large amount of capital which he finds ready to be placed at the disposal of all kinds of reliable and bona fide companies in Canada, such as the South Shore Tunnel at Montreal an electric light company, working deposits of iron, erecting factories for the manufacure in the Ottawa Valley of sulphuric acid. uperphosphates, &c. French delegates are expected within a few weeks, to inquire and report. Among the projects receiving attenon are the two steamship lines, one between Rouen and Montreal in summer nd Halifax in winter; the other from France to Brazil, via Canada and La Plata; syndicate to contract the Pacific Railway, and lease or purchase outright the North Shore Railway. In addition, as stated by a St. Johns editor

A company has been formed in Paris, with a capital of 15,000,000 francs, for the development of the mineral deposits in the Laurentian range. Another company in France, with a capital of \$1,500,000, have already entered upon phosphate mining along the Du Lievre River, where they mining along the Du Lievre River, where they have paid \$100,000 for the land. Still another French company, with \$100,000 capital, has taken up lands in Ottawa County to develop its rich iron mines. There are two Credit Foncier Companies formed in Paris, with \$10,000,000 of capital each, who have already lent, within a few months, over \$500,000 each to farmers at 6 per cent, and their operations extend to Ontario, Manitoba and New Bennewick. unswick.

Finally, there are two French companies organized, one to manufacture phosphates, and the other beet sugar, known as the Union Sucriére. The Canadians congratulate themselves upon having recently obained a Government loan of \$4,000,000 in Paris, at exceedingly favorable rates, and we hope nothing will occur to disappoint their bright anticipations.

A statement has recently been made in a New York paper, and telegraphed to other parts of the country, to the effect that Assistant Secretary of the Treasury French, at the request of the Standard Oil Co., about a year ago rendered a decision that admitted plate iron as manufactures of iron not othervise provided for, but that recently this ecision has been reversed, and that suits are now to be instituted against the Stand-The letter which we print on another and Oil Company to recover the duties the page from Mr. C. C. Cole, of Des Moines, Government failed to receive. The case who represents the Iowa Farmer's Protective there referred to is evidently the tank iron ease, which was described Feb. 24th, 1881, of the grievance of the Western farmers in in which the Secretary held that "tank Roach, the veteran shipbuilder of this county by bad advice, or entrapped into mistakes matters much. Now, we have the very best regard to the barb fence wire patents. As plates" were plate iron in the meaning of try, is reported to have said on this question; by those in whose political sagacity he once evidence that the Cincinnati manufacturers, the Washburn & Moen Manufacturing Co. the tariff act. That Judge French ever of shafts: "I do not want to criticise the trusted. The people will respect and trust, who are the parties most interested, neither had the use of our columns last week for a decided that these were manufacturers of work of other men, but since 1871 we him until he shall betray their confidence. say this nor believe it, and the evidence is statement of the case from their standpoint, con dutiable at 35 per cent. ad valorem, is

this question came up incidentally in connection with the car truck channel case, and the decision of Feb. 24th, 1881, was again affirmed-incidentally, however, not directly. Since then the case has not been before the department in any form, and it is difficult to see what has called forth this statement of it. Certainly there is no intention on the part of the Government to sue the Standard Oil Company, as stated for even if it were true that the rate of duty had been changed as alleged, it is not the custom of the Treasury Department to enter suit for any deficiency of duties arising from such causes

The Coal Situation at Pittsburgh.

A curious complication has arisen in Pitts burgh over the demand of the miners for an increase in the price of digging of 1/2 cent a bushel, or from 31/2 to 4 cents. As we state elsewhere, the miners were successful and the operators conceded the advance. But now comes the miners' secretary and asserts that the operators have advanced the retail price of coal out of all proportion to the price paid for digging. The assertion of the secretary is that the retail coal dealers advanced the price of coal 57 1-7th per cent., while the miners have only received an advance of 331/3 per cent. in their wages, and he cites the following figures taken from a household consumer's receipt for coal, to prove it :

Retail pr. lump coal. Date of Receipt. October 14, 1880.... November 29, 1880. January 26, 1881.... March 15, 1881.... September 16, 1881. 70. 80. 90.

Advance in mining, I cent; advance in re tail price, 4 cents, or 331/3 of an advance in wages and 57 1-7th per cent. in retail price of coal.

It should be stated that the coal dealers deny this, and assert that the advance in price has been but 2 cents. However this may be, the miners' secretary proposes either that the price of coal at retail shall be reduced before September 24 or the miners will'demand & cents a bushel for digging Should this demand be refused, and strike occur, it will certainly be one of the 'notable cases of strikes." It will be really a strike to reduce the selling price of product by increasing the cost of production. While there is great indignation over the action of the retail dealers, and a good deal of sympathy with the movement of the miners, the proposition of the miners, logically stated, is a most amazing one. It proceeds on the assumption that the price of mining is the only element that regulates the selling price, when the fact is that the selling price is ab normally high because of the short supply arising from the drouth, and were there to be rain sufficient to cause a rise in the rivers, coal would drop at once. Until this

The revival of Irish industry was among the subjects brought up for the action of the recent National League Convention. To encourage the revival of Irish manu factures, or any legitimate form of industry, is commendable, for self-reliance and enterprise are sadly needed among Irish people. But the task is hopeless one. An attempt to induce the Irish nation to Boycott England, by purchasing only Irish manufactures and products, must fail, for England will no allow Ireland to attain any importance as a producing country, except for farm produce, and capital cannot be induced to seek investment in Irish manufactures under circu stances so unfavorable to profit. Ireland ha no future so long as her destinies are directed by England, and political independence is something so nearly impossible that it is idle to speculate as to its probable effects.

comes, this attempt of the miners to reduc

selling price by increasing cost will b

watched with a good deal of interest.

The Fair Trade movement seems to have received cold comfort from the Trades Union Congress which met in London last week. The telegraph dispatches reporting its action are necessarily brief, but it an pears that not only did the congress expel certain delegates that appeared as representatives of so-called labor organizations that were really Fair Trade bodies, but it pronounced against Fair Trade, or return to protection. The struggle that is now going on in England is only of interest to this country as a study—something more than a curious one, as it involves the argument of certain principles that we believe are vital and concerning which this country has be regarded as holding absurd ideas. The gives it an interest and meaning for us.

The coal miners of Western Pennsylvania at a convention held in Pittsburgh last week de manded an advance in the price of mining of 1/2 cent a bushel, or from 31/2 to 4 cents the demand was conceded. This applies only to the railroad mines of those that ship coal by rail. The success of the demand is due to two causes: First, the drouth in that region, which has prevented all shipments by river and made a greate demand on the railroad mines. This has led to the second cause, which is the demand of those points that get their coal by lake that shipments be hurried forward before navigation closes for the winter. It looks as though tion closes for the winter. It looks as though
this demand and increase would be general,
they are opposed to the perversions of of acids. About half a ton of crushed and
the patent law and the violations of its washed ore was placed in a tank, on a
The fusibility of soft solders is increased likely to be caught. This spring fills the
spirit, so uniformly perpetrated under the roughly constructed platform, and connected by adding bismuth to the composition. An place sufficiently to keep the foot out of it,
The Hocking Valley miners and those of
the points have made demands, but as we clause either repealed or so modified and hydrochloric solvents. The ore was subbismuth one part, is easily melted, but this wheel flanges, and thus avoid any risk of
write the reports as to the result are con-

not only untrue, but absurd. In May last flicting, but if the Ohio continues long at its present state of dryness, Hocking Valley coal will be at a premium. These advance must have some effect on the iron and na market in the West; ½ cent advance for digging means I cent or more advance elling price, and as coal is a large item the manufacture of iron, this advance wi have its effect on the price of iron. East has already advanced nails to and it is more than likely that the West wil

The Iowa Farmers and the Barb Fence Wire Patents.

DES MOINES, IOWA, Sept. 10, 1881 To the Editor of The Iron Age-DEAR Absence from home and pressing dutie ere have delayed my answer to yours ask ig me to favor you with a statement of those (Iowa farmers) you (I) represent, are of the action they propose to take." You etter and request are alike courteous ectful, and are entitled to a candid and

ank answer. The farmers of Iowa and of the North est have been victims to claimants of leged patents of drive wells, gates, churn and other things. Those who claim to be patentees, by themselves or agents, have isited the farmers and demanded the pay ment of some small sum, \$10 or \$20, for alleged infringement of the particular paten drive well, gate, or whatever it might be that the farmers had used, and in case of refusal have threatened litigation in th ederal Courts, where alone such matter may be litigated; and to give color to their hreats, have sometimes brought numbers o suits. The farmers in very many instance have paid the price demanded, rather than bject themselves to the expense of en bying a lawyer to resist even a groundles In this and other ways the farmer ave been greatly imposed upon. Those hom I represent have recently organize hemselves into a corporation, pursuant the laws of Iowa, under the name of th name of Farmer's Protective Association," for the pose of the manufacture, purchase and of barbed wire and other articles used by farmers, to protect its members from un t and illegal extortion by alleged pat ntees and monopolies, and generally to aid ts members in securing articles used by armers at as near the original prime cos the manufacturer as is practicable.

It is quite probable that the immediate imulus to this organization was the decision by the Chicago court sustaining the barbe wire patents in favor of the Washburn & Moen Mfg. Co.

Those suits were brought claiming under even distinct patents, all of which, sav-wo, were reissues, and the court held the two, were reissues, and the court held the two original patents worthless, or, to us the language of the court in respect to on of them: "There was nothing new in Glidden's last patent, and no room for the laim of invention in the wire therein pr rided.

The reissued patents in every case, it laimed, were materially different from th originals, and embraced devices in actualist by the farmers before such relasue.

To illustrate, we take the first an

original Glidden patent, which is the onl ne finally sustained by the decree of the purt in the above case. We quote from the original patent claim in the original patent to Glidden, as follows:

'I do not claim to have originated th devices known as spurs or prongs on the wires, they having been used before, bu nfine myself to the means for holding the turs at proper intervals on the wires, and the means for attaining a uniform tension of the wires, as claimed. I claim the com-bination of the wires B C, slotted tube G oil spring I and post K, for keeping th vires in proper tension in various temperaures, as described and shown."

In Mr. Glidden's reissue, under which Vashburn & Moon obtain their decree, his claim is as follows: "What I claim as new claim is as follows: What I claim as hew and desire to secure by letters patent is: In combination with a fence wire, a bart formed of a short piece of pointed wire secured in place upon the fence by coilir between its ends, forming two projections

oints, substantially as specified."

Now, the farmers of Iowa claim that this ssue, being materially different from the original patent, and being a patent for that which Mr. Glidden, in his original specificaon expressly states "have been used be bre," is not a valid patent under the patent aws, and that such invalidity is so manifes the face of the two tents that h upon the face of the two patents that he who runs may both read and see. The pat-ent law provides that, "Whenever any pat-ent is inoperative or invalid by reason of the patentee claiming as his own invention or liscovery more than he had a right to clain as new, the commissioner shall, on the sur ender of such patent and the payment of the duty required by law, cause a new ent for the same invention and in ordance with the corrected specification to be issued to the patentee * * * but no new natter shall be introduced into the specifi-

Farmer's Protective Association aims that Mr. Glidden introduced new natter in his specification, and that the pat ntissued to him was not for the same inven

entissued to him was not for the same inven-tion. The same change of specification and introduction of new matter exists in every other reissued patent under which the Washburn & Moen Mfg. Co. claim. The facility with which patentees can secure reissues of their patents, with such enlargements of the specifications as to em-brace improvements brought into public use ubsequent (as well as prior) to their origina atent, is well known to many; and when patentees, or their assignees, are wealthy reissues are very common, and they very often, yea almost uniformly, are made to include inventions not in the mind of the in entor at the time he prepared his origins

pecifications. The farmers of Iowa are not opposed to patent laws, nor to the largest liberality in manufacturing, West as well as East, but make no war upon decisions of courts upon the laws of the land, other than such as is legitimate and requisite to procure wis correct and just decisions and proper legis lative action. This much respecting the legal or judicial phase of the grievances of the farmers in the Northwest.

But the farmers have a greater grievan n the practical workings of the decision referred to, and the conduct of the Wash-purn & Moen Mfg. Co. and their licenseer pereunder. It is a fact, casting suspicion the bona fides of the controver erein the decision was rendered, the early every defendant in those cases base ecome a licensee, and, in connection with the Washburn & Moen Mfg. Co., are perperating the grievance I am about to state.

The Washburn & Moen Mfg. Co. do no

rant to their licensees freedom in quanty of manufacture or in price of the pro uct, but they so limit the manufacture oach as to them seems wise, and fix th consumers at 10 cents per pour painted, and II cents per poun-galvanized wire. The monopol lawful patent the farmers make n omplaint against. They would not object paying even the royalty fixed by the Chi ago court for Mr. Haish, one of the defend to wit: 34 of a cent per pounded wire of just as good quality as ca ow be obtained at 10 cents per pound, ha en sold in Iowa for years prior to the cision at from 6 to 7 cents per pound nd it can be manufactured in with a fair profit to the man to-day, with a fair profit to each the unfacturer, a fair profit to each the wholesale and retail dealer, and the 3 cent royalty to the Washburn & Moen Mfg Co., and sold to consumers for 7 cents pe ad. And by the action of the Farmer Protective Association, its members are t ay, and have been ever since its organiz ion, furnished with the wire at 6½ cents per pound; and if thereto be added the -cent per pound royalty, it would only
ake 71/4 cents. And when the Farmer' Protective Association shall have complete its arrangements as it contemplates, it will furnish to its members the wire at 61/2 cents at 7 cents per pound after paying the cent royalty to the patentee.

Now, the grievance of the farmers is, no at they may be required to pay a reason ble royalty to the patentee of, say, 3/4 of cent per pound, but that they are compelled to pay a bonus to the monopoly of the Wash urn & Moen Mfg. Co. and its licensees cents per pound over and above suc gitimate and fair royalty to the patentee Will The Iron Age look at this practical view of the question, and say whether the farmers of the Northwest have not a griev-

Mr. Washburn stated to a committee he farmers of Iowa, in Des Moines a few weeks since, that there were sold in Iowa the last year over 150,000 tons arbed wire. Now, the farmers of Iow o not complain, and would not complain a aying to the Washburn & Moen Mfg. Co assignee of the patentees, a ¼-cent per ound royalty, or the sum of \$2,250,000 per num. But when Mr. Washburn and hi icensees add thereto 3 cents per pound hereby thating the farmers of Yowa \$\frac{1}{2}\text{,000}\$, oo more than such legitimate royalty, th armers of Iowa affirm that they have a griev and against which extortion and out it is not only their right, but their inden duty to organize.

Mark you, the farmers have been paying the years past the royalty when they ave purchased the wire at the price of rom 6 to 7 cents, for they purchase ither directly from the Washburn & Moe Mfg. Co., or from other companies who wer liable to pay (and hence, in fixing their price ok the same into account) the 34 cent pe ound royalty to them. The farmers of owa in years past have, therefore, not com lained at paying into the pockets of the atentees the \$2,250,000 per annum; bu hen, by their combination, they create monopoly and demand the additional sum of \$9,000,000 a year from the farmers of Iowa then it is that the farmers say they mus have protection against such monopoly

extortion and outrage. I am aware that the farmers are misre resented, through pamphlets with which the monopoly is flooding the country, and are charged with being opposed to patent laws, and opposed to the payment of legitimate and proper royalty to patentees. I den the assertions for the farmers of Iowa, eac and all of them. They are libels upon th nd all of them. They are libels upon the nost important, the most patient, the most aw-abiding and the best people of this or ny other State. The Iron Age and its readers know as well as your corresponden the cost of plain wire, and that it can b the cost of plan wire, and that it can be purchased for less than 4½ cents per pound They may know that it can be manufactured into barbed fence wire for approximately 4 cent per pound. Let them take the pric of the wire and the cost of manufacture and see the margin between it and 7 cents per bound, and your readers will be convinced that the farmers of Iowa are not withou rievances, against which it is their dut oth to protest and, in every legitimate an coper way, resist. If Washburn & Moe proper way, resist. ad been content with a legitimate royalty

nd had not organized an oppressive mono

oly in addition thereto, the farmers wou have paid it rather than resort to litigation although confident that the result of the

litigation will demonstrate the utter invalid

nectfully.

of their claimed patents and the frau nnected with their reissuss. Very rectfully. C. C. Cole.

Treating Auriferous Ores .- A new pro ess for extracting gold from complex auri crous ores was recently tried at the Crown Engine Works, Lambeth. The process is known as Molloy and Warren's, and is shiefly intended for dealing with refractory res, such as are to be found in the Indian and other gold fields. The machinery con-ists of a patent crushing stamp, resembling a steam hammer, a reverberatory furnac for roasting the crushed ore, and chemics apparatus for extracting the gold by mean

ort time, and the solution of gold and ver thereby produced was chemicall eated to throw off the metals. These wer en melted in an ordinary crucible, and a ir quantity of the precious metals was th Part of the process includes the re on of the acids, so that they can be sed again and again. The only waste is hat due to leakage through defective joints,

METALLURGICAL NOTES.

THE STEEL AND COAL INDUSTRIES OF RUSSIA.

From a report on the trade of Taganro Russia) during the past year we get son aformation relative to these industries. stated that the general tone of the stee of the prevailing distress all over the land, been satisfactory and encouraging. Exports o the Black Sea ports, as well as to so the Azoff ports, have shown a marked in-rease on those of former years; and the ordinary work of the lighterage to the road eads having been much reduced, and the asting craft having had very little to do luring the past year, placed them more at he disposal of the coal trade. Many excel-ent seams have been found and worked, nd the general feeling in the country is hat these mineral riches ought to be fully veloped. The imperial government ap ars also to be solicitous in regard to this atter, and is making efforts to have the in ustry adequately developed. The opinion expressed that cheap carriage from the nes to the shipping port, and greate cilities for loading, are all that are re cilities for loading, nred to enable this industry to become or the important staples of trade in this par the empire. We note that the local iro the empire. We note that the local iron and steel works have, notwithstanding their creased working power, more orders of and than can be immediately executed arge quantities of steel rails of superior were manufactured and shipped a aganrog for Poti, for the new railway i rrse of construction from that town kow. The demand for pig iron has b a excess of the quantity produced at the orks; consequently, the imports of the on increased during 1880. It is expected wever, that the addition of 10 per co kes the duty on this article equal to 10/ terling per ton, will oblige consum send their orders to the local works. eat obstacle in the way of the develop this branch of Russian trade—and, in ed, of that of most other native industric is the exorbitant charges for railway nsport, which give the foreign article a dvantage over the native one, and allow mpetition being carried on. same time we note the statement that he improvement of the iron trade in Eng whence the imports are mostly in favor of the Russian works, and that i e productive power of the latter be sufficiently increased to provide for the demand reign imports will stand a poor chance is further stated that nothing ha anspired from the visit last summer t l'aganrog of certain engineers and representatives of a large New York firm, with the se developing the resources of this ric nineral district. LUCE FILS ET ROZAN'S PROCESS OF DESIL

VERIZING LEAD.

This process, as employed by Messrs. Co n & Co., was described in a paper by Mr cokson at the last meeting of the British sociation. The lead containing silver is elted in a pot raised sufficiently high above ground level to allow of the conten eing run into a second and larger pot raise bout a foot above the floor. This latte ot is at least double the capacity of th oper one, and in the apparatus most re-ently erected is capable of containing 3-ons of lead. The upper pot is open at th op, but the lower one is provided with over having hinged doors, and from th nter of the cover a funnel is carried to t of condensers. The lower vessel is als of condensers. The lower vessel is also vided with a steam inlet pipe by mean which steam can be blown up throug this apparatus depends upon the sam principle as the Pattinson process, namely, that when silver lead cools, the crystals first ed contain less silver than the porti he metal which remains longest liquid. I sing the apparatus the lead is melted in th pper vessel, and the dross being removed it run down into the lower vessel among the rystals remaining from a previous opera-ion. When the whole charge is melted it is gain drossed, and steam is then blown hrough it to prevent it from setting at the op or outside, while to quicken the forma while to quicken the forma n of crystals small jets of water are mad play on the surface of the lead. bo play on the surface of the lead. The builtion caused by the passage of the steam is very violent, and, under the influence of this action and the cooling effect of the water, the formation of crystals, singuarly enough, goes on with great regularity When about two-thirds of the contents of the pot have become thus crystallized, the tal remaining liquid is run off into large ne-shaped ingots. From the time that ston charge is melted and fit to work, t 6-ton charge is melted and fit to work, to the coveted coaling stations are within the he time that it is crystallized and ready for disputed territory between Costa Rica and apping, is about 35 to 40 minutes, while the Colombia, the present moment, it is sugapping occupies about 3 minutes. Before gested, may be opportune for taking posseshe lead begins to crystallize, the upper pot sion, if the United States means to acquire a charged with lead of half the richness of rights in that quarter. But in regard to hat in the lower pot, and when the latter these matters the Secretary of State is, as been tapped, it is recharged by running doubtless, well advised. the lead begins to crystal.

Is charged with lead of half the richness of rights that in the lower pot, and when the latte, these matters the Secretary of that in the lower pot, and when the latte, these matters the Secretary of that in the lower pot, this metal being of the same richness as the crystals left in the lower pot. This operation is the New York, Pennsylvania and Ohio road, repeated, the new metal being halved in has placed on the frogs and guard rails in the case each time, until the percentage of the Cleveland yard a new invention, called the case of the case of

ead two parts, of bismuth two parts and ne part. By adding mercury fusible solder can be made. adding mercury, a arts of lead, bismuth and mercury, wo parts of tin, will make a composition hat melts at 122° F., or an alloy of tin five parts, lead three parts and bismuth three carts, lead three parts and bismuth three leads to be believe water. In mixing arts, will melt in boiling water. bat due to leakage through defective joints, or the imperfect washing of the acids. The first in an iron ladle, then add the others or the imperfect washing of the acids. The first in an iron ladle, then add the others or the imperfect washing of the acids. The first in an iron ladle, then add the others or ventors claim that a ton of ore may be accordance with their infusibility. To cast are at a cost of 25/, and that 90 per strips of solder, pour the molten metal on a zent. of the metals in the ore can be flat surface of stone or metal, drawing the ladle along the while to leave a thread of the desired substance.

LABOR AND WAGES.

For two years and a half there has been o general strike among the coal miners of Vestern Pennsylvania.

The pit drivers in the employ of the Birmingham Coal Company, Pittsburgh, who struck for \$2.25 per day, received the ad-

vance, which was 25 cents.
Youngstown, O., September 18.—The brakemen and firemen in the New York, Pennsylvania and Ohio yards here, so in number, struck this morning, leaving the tracks badly blockaded. The braken

the firemen from \$62 to \$70 per month.

The members of the Amalgamated Association in the West have been given their wages every two weeks instead of every month as heretofore, and now the non-union men, to the number of 900, threaten to strike unless they get well array to weeks.

unless they get paid every two weeks.

A suit has been entered in Pittsburgh gainst Joseph McConnell, a well-known coal operator, for the refusal to allow one Robert Hogg to act as check weighman.
The case involves the right of the miners der the act of Assembly to employ any arson they choose as check weighman.

The proposed general strike of miners in the Hocking Valley will be abandoned, as the operators have decided to advance prices mining to 80 cents per ton, an advance of cents a ton.

The Cornish miners employed at the eveland mine, Ishpeming, struck on Thurs-ty morning to enforce a demand for the guration of a Cornish custom-a half auguration of a Cornish custom—a half bilday on Saturday and no work on Satur-y night, with full pay. The strike ex-nded to the other mines and meetings of e strikers were held, but the strike was sted by the mine managers and lasted but

day or two.

Eight rolling-mill hands from Reading and ur from Pottstown, who were induced to to Portsmouth, Ohio, found that a strike isted at that place. They were taken in charge by the union men engaged in the strike, hospitably entertained and had their s home paid.

cpenses nome paid.
The E. & G. Brooke Iron Company posted notice in the rolling mill on the 17th, inrming the puddlers that their wages would
increased to \$1, per ton, and that the
ages paid the nailers would be advanced per cent. upon the present prices, and a e percentage added to the wages of the uer min hands. The increase is warranced the rise in the price of nails and will take ect on the 1st of October. The notice is demented by a proviso, stating that in the present price of nails is not mainined, the men will have to suffer a reduc on in proportion to the rate in which roducts of the mill recede in value.

The coal miners of the railroad mines near ittsburgh have received an advance of 1/2 ont a bushel for digging. The price is now cents, but they threaten to strike for anher cent unless the retail price of coal is duced from II to ocents.

The scarcity of men continues at some of the industrial works here. At one of the nills machinists and other mechanics have en assigned to different labor from that which they are accustomed to in order to ep all portions of the works going. There no reason for any healthy, man in Pottstown being idle. - Exchange A dispatch from Warren, Ohio, dated the th, says: The entire force of men em-14th, says: The entire force of men em-ployed at Westlake's rolling mill went out on a strike this morning, because of the dis charge of 11 puddlers. The officers of the Amalgamated Association came down here and have legalized the strike.

The strike of the glass bouse boys, at Pittsburgh, is practically ended. The bottle boys in all the factories returned to work resterday at the wages offered by the manu-acturers, and the finishing boys are about to

Isthmus Coaling Stations .- An Amerin correspondent on the Isthmus of Panna is exceedingly disgusted by the apparent pathy of the United States Government in egard to securing coaling stations on that oast. He deplores the fact that American influence thereabout is gradually failing, especially since the masterly maneuvre of the Lesseps Land Company in gaining possession of the Panama Railroad, although obtained at a cost of \$2,500,000 per annum, paid in subventions to the Colombian Govern This correspondent directs attention nent. to the fact that all English war vessels at Panama take a run to the Pearl Islands, lying 37 miles distant in deep water, with ne ostensible object of studying astron but how the use of surveying instruments can further this object does not appear. the coveted coaling stations are within

repeated, the new metal being haived in has placed.

repeated, the new metal being haived in has placed.

richness each time, until the percentage of the Cleveland yard a new invention, caned silver remaining in the crystals is so low a "foot-guard." The invention consists of that they are finally melted and run into a flat steel spring placed in the opening, or that they are finally melted and run into a flat steel spring placed in the opening, or that they are finally melted and run into a flat steel spring placed in the opening.

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OPINIONS.

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President the American Society for Prevention of Cruelty to Animals, New York.

President the American Society for Cruelty to Animals, New York.

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and stack, cutting markers are troit base, cutting corn stacks for feed, cutting peat and ditching marshes.

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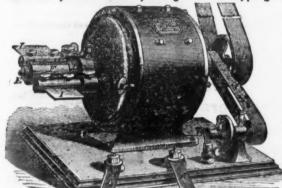
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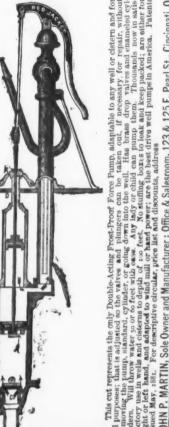
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perfect boxes or pieces per day of 10 hours, at a cost of labor varying from 15 to 25, cents per 1000. In operating the machine, it may be said that blanks are first cut from some 40 or 50 full-size straw board sheets, of cents per 1000. In operating the machine, it homogeneous plastic mass of rubber and may be said that blanks are first cut from 15 to 25 and 1000 mapthaline plastic mass of rubber and mapthaline on the sides 26 by 38 inches, or any more economical of the bottle and leave the rubber entirely. It seems to be pressed out by the contractive force of the rubber, dissolves in the air inclosed in the bottle, deposited on the sides way at the rate of from 30,000 to 50,000 at the sides of the bottle, deposited on the day by the machine. The blanks thus shaped are formed by the machine, pasted and completed, by a series of ingenious mechanical manipulations. Glue, mucilage or wheat flour can be employed in pasting, and, when the boxes leave the machine, they are ready for immediate use. The blanks may be printed in the whole sheet of board before cutting, or singly after being out. The machine, it may be added, is self-feeding or automatic in its operation, and doss not need the care of high-priced labor, a boy or the sides of the bottle, deposited on the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns to the rubber for a fresh sides as fine five-starred crystals, and the air then returns ce printed in the whole sheet of board before cutting, or singly after being cut. The machine, it may be added, is self-feeding or automatic in its operation, and does not need the care of high-priced labor, a boy or girl being capable of running two or more machines. All thicknesses of straw board can be used with the some facility. Straw board, card board, manila, or other kinds of paper can be used, covered on one or both sides with paper of handsome design, color wides with paper of handsome design, color &c. Thus a box equally as attractive as i covered with an expensive label is produced, and great expense saved. Indeed, in every way the products of this machine may be looked at, they will commend themselves to the trade generally, being in the line of economy, while losing nothing of the attractive appearance which economy, while losing nothing of the attrac-tive appearance which seems necessary to please the modern eye. It may be stated, in this connection, that straw board, covered with handsome manila paper, is now quite extensively used for screw, tack, match and cartridge boxes, and the purposes for which these substances can be made into boxes to serve are all but illimitable. Most of the match and screw manufacturers in the country now use these box machines. One company, which manufactures one-fourth of the matches made in the United States, purchased the first machine made, and now as in operation on one floor of its mammothy orks 19 box machines, with a daily capac y of 200,000 boxes, or at the enormous ate of 60,000,000 boxes annually. The achine for filling boxes is a simple and machine for filling boxes is a simple and effective device, as nearly automatic as possible. Fifty thousand boxes or more per day can be packed by the machine with the aid of a boy. It would seem incredible that a boy in 10 hours could pack a freight train load of any convenient commodity, accurately into packages of any desired weight, from one ounce to a pound or more, but such is the feet. ut such is the fact.

Some interesting and important exper

ents with

NOBEL'S BLASTING GELATING NOBEL'S BLASTING GELATINE
have lately been made in England. The
blasting gelatine is composed of from 7 to 10
per cent. of a special quality of nitro-cotton,
with from 90 to 93 per cent. of nitro-glycerine, which together form a compound that
is more powerful as an explosive agent than
even pure nitro-glycerine, its disruptive
force being enormous, at least 50 per cent.
greater than dynamite. This fact has been
most satisfactorily established by experiments carried out by Prof. F. A. Abel, and
the recent tests fully bear out the testimony.
In appearance this explosive resembles a
thick jelly, of a brownish color, and in its
mormal state is a thick plastic mass, which
makes it very convenient for charging boremakes it very convenient for charging borenoles, as by squeezing the cartridge with a
wooden rod they can be made to fill the holes
completely. Another advantage claimed for
the explosive is that it is more insensible to or the per cent. of Water, Volatile Combustitues to the Mater, fixed Carbon, and Ash in Coal. 12.50
For determining the constituents of a Clay, Slag, Spond with those for the charges will correspond with those for the constituents of an ore. The for a written opinion or letter of instruction the charge must necessarily depend upon circumstances.

Frinted instructions for obtaining proper average amples for analysis furnished upon application

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GRAPE VINE GRAIN CRADLES, CRAPE VINE GRAIN CRADLES, CRAPE VINE GRAIN CRADLES, and of fingers.

Consequence of the explosive is that it is more insensible to the surface instruction for the bullowing should be application. The continuation of the constituents of a Clay, Slag, Shocks than dynamite. Another recommendation claimed for the blasting gelatine and become the recipient of energy of both kinetic and potential forms. Hence it can be unable for subaqueous blasting, as no other explosive of which is assumed on the one hand by was able to withstand without injury the subjected to by Prof. Abel. The rock in which the boring is now being carried on is a thick bed of strong flint, one of the toughment of the subjected to by Prof. Abel. The rock in which the boring is now being carried on is a thick bed of strong flint, one of the toughment of the subjected to by Prof. Abel. The rock in which the boring is now being carried on is a thick bed of strong flint, one of the toughment of the subjected to by Prof. Abel. The rock in which the boring is now being carried on is a thick bed of strong flint, one of the toughment of the subject of the subject of the subject of the subject of the purpose of explaining physical optics, and on the other hand by Clerk Maxwell for the purpose of explaining the phenomena of electric and which the purpose of the subject of the subject of the purpose of explaining the phenomena of electric and which the used at the works where the experiment was tried. For the purpose of the test 15 holes were driven in a strong position in

15 holes were driven in a strong position in the face of the rock, averaging 3 feet in depth, and 1½ inches in diameter. The weight of blasting gelatine used in the test was 18 pounds, and the results were perfectly astounding. The drift or level in which the experiments were made measured 7 feet high by 6 feet in width, and the quantity of blasting gelatine used was a little over one-half the dynamite used for similar borings. Each charge brought away the whole of the rock allotted to it, clearing away the face of the level for the depth of over a yard. the depth of over a yard.

Prof. Mowbray, well known in connection with the manufacture of nitro-glycerine, has recently made a valuable

DISCOVERY IN THE VULCANIZATION OF RUBBER,

which promises to be of the greatest value. Totary phenomena of electro-magnetism and the method of treating rubber and combining it with any of the hardening gum rosins, for preparing it for vulcanization, is new, and is founded on the fact that napthaline, being a common solvent of rubber and those gums, is used primarily to disintegrate the gum, instead of the masticating machine alone, which, as is well known, starts a decomposition by reason of the great heat waves to a molecule of sodium in our laboratories and cause it to vibrate—the energy of the masticating machine is used to convert the waves in the intervening space being alternately electric kinetic and electro-poten tial in form. The so-called actinic rays are but vibrations of a higher frequency in the electricity of space." Finally, Dr. Thompdord plastic, and combined with other son concludes from the innumerable analogues to constant and of closest possible observation and present ex-relectricity, that as the rate of loss of charge which promises to be of the greatest value

perience have determined, any decomposi The Cleveland Machine Co., of Cleveland, Ohio, are introducing two new and useful machines for

MAKING AND PACKING PAPER BOXES, which are coming into extensive use in many lines of trade. A single box-making machine will make from 10,000 to 20,000 perfect boxes or pieces per day of 10 hours, and thence licked up by the surrounding at a cost of labor varying from 15 to 22 mirrows. and thence licked up by the surrounding air—even at 50° F. temperature. A hot homogeneous plastic mass of rubber and cables, but no method known could reduce the rubber to a plastic mass without starting decomposition, and the decomposition differing from that started in gutta percha, con-tinued to progress even when air and light were excluded. As is well known, gutta percha exposed to air and sunlight is rotten in three months, but immersed in salt water in three months, but immersed in salt water lasts twenty years. Now, rubber treated as we have described, seems utterly unchangeable, whether in open air, exposed to the sun's rays, buried in earth or in water; and it is this industry, so applicable at this moment for electric purposes, that Prof. Mowbray has been engaged developing since the Western Union Telegraph Company were attacked for having used gutta perchaby the assignees of the Simpson patent, costing that company \$100,000 in settlement, a result that determined the professor to a result that determined the professor to take up with rubber and attempt to over-come the objections that prevented its being used as an insulator.

The construction of a complete system of

UNDERGROUND LINES OF TELEGRAPH, uniting the most important commercial and strategical points in the German Empire, was one of the principal features of the plan submitted by the Department of Posts and Telegraphs in 1876. The plan also covered the construction of governmental over-ground telegraph lines, and the erection of buildings for postal and telegraph service, as well as a system of pacumatic pipe mail lines. Five years were allotted for the com-pletion of the entire work, at a total ex-penditure of \$12,480,000. The work is now finished and has cost some \$10,360,000. The overhead telegraph lines have been increased in five years from 23,600 miles to 32,913 miles, giving an increase of length of wire of 21,755 miles, while the stations increased from 1688 to 5671. The total length of cathes amounts to 24,000 miles of wires. The total weight of iron used in these cables amounts to 24,144,-780 pounds. This system now avoids the numerous interruptions to business that formerly occurred from such a great variety of causes as eventual telegraph lines are all causes. of causes as overhead telegraph lines are al-

ways subject to.
In an article contributed to the Philosophical Magazine for July, Prof. S. P. Thompson discusses

THE CONSERVATION OF ELECTRICITY

in an interesting manner. According to his view, electricity belongs to a category by itself; it is neither matter nor energy; but just as there is a conservation of energy, so is there a conservation of electricity. Electricity constantly tends to a uniform distri-bution through space; it does not possess mass, while at the same time it possesses a was assumed by Lessey in order to explanation which would still hold were it supposed that the ultimate atoms of matter are impenetrable to electricity. It would also appear that electricity thus uniformly distributed through space would exercise a definite pressure throughout space, such as has been attributed to the ether by Mr. Tolver Preston in his work, the "Physics of the Ether," and his articles on the "Origin of Motion." Mr. Preston employs this pressure to account for the phenomenon of cohesion, and Mr. J. Macfarlane Gray accounts for certain phenomena of thermodynamics on the same hypothesis. In the opinion of Prof. Thompson, therefore, this ether ought properly to be called the electricity of space. Electricity, he argues, fills all space; its inequalities of distribution, where electro-kinetic forces have done work upon it, result in placing more of it at cer-tain points and less at others, or, in other words, in giving it a + and a - distribution. Its flow resembles that of an incompressible fluid; its centrifugal force gives rise to the rotary phenomena of electro-magnetism and magneto-optics; its vibrations are radiant light and heat. "Just as the air can take











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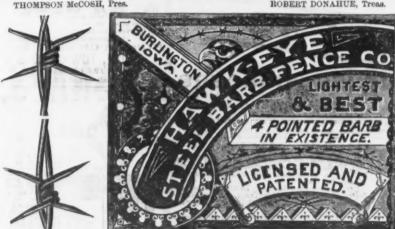
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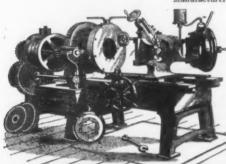
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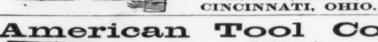
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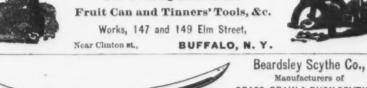


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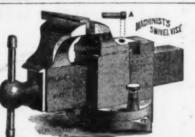
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Patented Articles of in resinously electrified bodies is greater than that of vitreously electrified bodies, the state of resinous electrification corresponds to that of excess, or, in other words, is a true plus electrification, and this is the ectrification of our earth relatively to sur-

ounding space.
Dr. W. G. A. Bonhill, of Philadelphia,
as presented to one of the London hos-

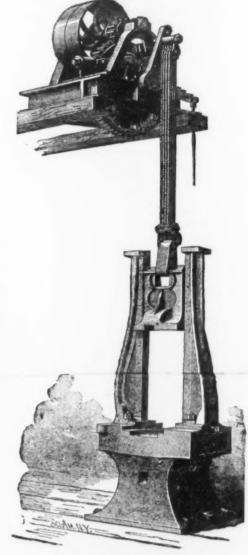
AN AMPUTATING MACHINE,

AN AMPUTATING MACHINE, which is said to be very ingenious. The apparatus consists of an iron standard carrying a train of multiplying gear, which by means of an endless cord passing over pulleys, transmits a rapid rotary motion to either small drills or circular saws, as the case may require. These drills and saws are attached to the end of a series of rods connected by universal joints, forming elbows, which permit the operator to move the cutting instrument in any direction he pleases while it is revolving at high speed. These instruments are only intended to deal with bone, and when it is desired to hold the fractured parts of a bone rigidly together in pleases while it is revolving at high speed. In improvement in the lifting apparatus of These instruments are only intended to deal drop presses, recently perfected and intro-with bone, and when it is desired to hold the duced by Messrs. Williams, White & Co., of fractured parts of a bone rigidly together in Moline, Ill. As may be seen by inspection a certain position, holes are drilled into it, of the engraving, several features are and pins inserted, which being held in a essentially different from those in use in steel frame keep the parts in the positiont apparatus well known to the public. In the desired. The circular saws are employed to first place the connection between the crank cut away portions of the bone, or sever the pin and hammer is slightly elastic, and, entire shaft. For simple amputations a therefore, acts as a cushion. The proper small straight saw can be fitted into a holder,

with two wires, and the earth, which usually takes the place of one wire, is dispensed with. But this requires excellent wires. The magnetic storm of August 28, 1860, is the severest of which any record exists. For several days no batteries were needed. So strongly were all electric currents disturbed that the electrotype plates, from which the Springfield Republican was printed, could not be made. The Sandwich land volcano showed great activity at the me, and many new sun spots appeared, to which phenomena many persons attributed the storm. Magnetic disturbances which interfere with the telegraph are not always accompanied by a light from the aurora orealis which can be distinguished.

Improvement in Drop Presses.

The accompanying illustration represents



IMPROVEMENT IN DROP PRESSES.

which have been of frequent occurrence.

One occurred in this vicinity on the night of the 12th inst., greatly interfering with the transmission of press and other dispatches. The ratchet in this apparatus contains 45 transmission of press and other dispatches. The magnetic storan travels very much like an ordinary storm, but more rapidly and in waves. It is in this respect like a hot or cold wave of air, but can only be felt by the telestor construction of which it is present. strong as to be unmanageable. If the storm carbon, is indestructible, whether in the air travels in the opposite direction, the battery or underground; it does not rust or change current will be entirely neutralized and no work can be done. When the current frost. The most important characteristic derived from the magnetic storm becomes so claimed fer it, however, in connection with strong as to render the instruments useless, the winderground wires, is its being a perfect inthe wires are disconnected from the batteries and worked with the magnetic storm sulator. Pipes of this material need not, it taries and worked with the magnetic storm as stated, be buried very deep in the ground, alone. This has been frequently done on a semi-elastic character, even long circuits with perfect success. Mr. Hamilton, the electricism of the Western adjusting themselves to the slight upheaval Hamilton, the electricism of the Western and depression of the ground through the Union Telegraph Co., has known the wires between New York and Buffalo to work for six hours at a stretch wishout the aid of batteries, and similar instances are sometimes reported from other cities. When telegraphy was new no use could be made of blown into eternity by a charge of gunthe wires when such a storm affected them, wowder which they discovered in a mold just batteries, and similar instances are sometimes reported from other cities. When men, and, a few days later, were almost telegraphy was new no use could be made of blown into eternity by a charge of gunthe wires when such a storm affected them, sowder which they discovered in a mold just heavy sparks flying from the instruments and frightening the operatives. The fact from the control from the instruments and frightening the operatives. The fact from the control from the molten and frightening the operatives. They were frightened from the control from the cont

and as the latter is attached to a small eccentric work from the main gearing, it has is easily obtained by the arrangement here a very rapid reciprocating action imparted shown. This connection can be applied to to it by means of a small hand-wheel. By old presses, and, therefore, is a feature of this means the comparatively slow oscillatinterest in itself. The manufacturers state tion of the surgeon's hand is superseded by that quite a demand has arisen for connectine extremely rapid motion of the mechantions of this kind to replace old straps on ical saw; and thus the time of an operation differs of drop presses of other manufacturers greatly shortened, while the operation turers. Internal steel ratchets whose teeth itself is much more neatly performed, owing are much stronger than of external ratchets to the small size of the saw and its high are used in constructing this lifter, and the velocity.

During the past few weeks the operations, main driving gear, the transmission of the of the telegraph companies have been seriestrain through the arms of the outly interfered with by

wave of air, but can only be felt by the tele-wo construct pipes in which to lay telegraph graph operators. If the storm is moving in the wires underground, is described as very light same direction as the current ou a telegraph—only about one-sixth the weight of iron—wire, the battery current will become so; and, being composed almost entirely of pure strong as to be unmanageable. If the storm—carbon, is indestructible, whether in the air

Activity in Clyde Shipbuilding.

The Edinburgh Scotsman says: The Clyde shipbuilding trade is still fully engaged, and although the output of vessels is heavy, orders continue to be received sufficient to keep the yards well occupied. The new contracts, however, are for a much smaller class of vessels than many of those lately launched. The aggregate tonnage put into the water this month has been 32,730—nearly double that of August last year and 7630 over that of August, 1874. In the eight months the tonnage launched was 214,990 tons, an increase of 67,990 over the same period last year, and of 35,590 tons over the output in the eight months of 1874, hitherto the busiest year for shipbuilding. The present month's aggregate has been largely augmented by the launch of two of the largest class of steamers, viz., the Carthage, of 5100 tons, for the Peninsular and Oriental Company, and the India, 4100 tons, for the British India Company. The average size of the vessels launched this month was 1560 tons, as against 940 tons in August, 1880, and 1320 tons in August, 1874, and for the British India Company. The average size of the vessels launched this month was 1500 tons, as against 940 tons in August, 1880, and 1320 tons in August, 1874, and for the eight months 1500 tons, as against 870 tons for the eight months in 1880, and 1390 tons for the same period in 1874. The vessels on the stocks number 124, the figures being the same as at the close of last month. Within the Glasgow district there are 54, while there are 32 within the Renfrew and Dumbarton district, and 38 within the Port Glasgow and Greenock district. Of the vessels in course of construction, there are 18 about ready for launching, 32 plated, 55 in frames and 19 keels laid or in course of being laid. In Messrs. Elder & Steven's yards there are 8 vessels being constructed in each. Messrs. Thomson, in the middle district, and Messrs. Scott, in the lower district, have each 7. Messrs. Barclay, Connal, and Henderson have 6 each. There are two yards with 5 each, seven with 4 each, seven with 3 each, six with 2 each, and five with 1 vessel each. At this time last year the vessels on the stocks numbered 92, while at the close of August, 1870, when the shipbuilding trade was at its lowest ebb, there were only 54, vessels on the stocks. The vessels launched during the month and eight months of this bear of the stocks. The vessels launched was at its lowest ebb, there were only 54, vessels on the stocks. The vessels launched with corresponding bear of the stocks. The vessels launched with corresponding bear of the stocks. Tons. Vessels. Tons.

	-Mon	th-	-Eight n	onthe
#88x #890 #879 #878 877	Vessels, 21 18 12 21	Tone, 32,730 16,900 10,700 21,100 11,200 25,100	Vossels, 153 169 137 181 159	Tons, 214,990 147,000 114,200 155,700 107,500 169,500

Nails.— Nail making may be called a truly American industry, for, although nails MACHINERY were made in the mother country even before America was discovered, the world one Horizontal Engine, 15½ in. x30 in. Todd & Rafferty. truly American industry, for, although nails were made in the mother country even before America was discovered, the world owes to this country the invention and the perfection of the nail-cutting machinery now in use. In the good old times all nails were made by hand. The iron was drawn into grods at the mills and the nails were made by hand. The first step toward a part and the mails were made by the blacksmiths on the anvil. The works was not narra and west with the blacksmiths on the anvil. The works was not narra and west were to the blacksmiths on the anvil. The machine was the invention of an arrange. From the first step toward a part was the invention of an arrange of the rod. The next machine had a set of the striking, made several nails in one heating of the striking, made several nails on their face, and the strip of iron was forced between these. On all, about 300 patents for nail machines have been granted, and 23 of these were of issued before the beginning of the present of century. The abundance of timber in the abundance of timber in the face and the moderate expense at which of a house could be set up, urged the mechanics of in their efforts to make a practicable nail of machine. At present the iron comes to the one in their efforts to make a practicable nail of the length of the nail to be made. This strip is offed by hand into the cutting machine and the workman truns the strip over, and another nail is cut. One of the machines will cut from one half to a ton of nails a day. All sorts of patent feeders have been made, and in some machines the angle of the cutter is changed with each cut to avoid turning the strip, but the nail makers in New England—and, in Bract, all east of the Alleghenies—still adhere from the old style of feeding by hand.

Mr. A. D. White, late United States Minister to Berlin, says: "I believe the electric railway is destined to be one of the great things of the future. They have two miles of railroad in Berlin worked upon this principle, and the result is a complete success. Not alone on surface roads is it particles. Not alone on surface roads is it particles.

New Haven, Conn.

New Haven, Conn.

A Blast Furnace Founder who has had experiprinciple, and the result is a complete success. Not alone on surface roads is it particles. roads as well. It would work a revolution on the 'L' roads in New York, with speed just as great as at present, no coal cinders or smoke of engines, and at much less expense."

The great factory of the Singer Mfg. Co., at Elizabeth, N. J., said to be the largest in the world, is for sale. Among the reasons suggested by officers of rival sewing machine companies are the following: That the atmosphere rusts the metal parts of the machines; that the taxes are too heavy, and that the company hold bonds of the city of Elizabeth and find it impossible to collects the principal.

The greasy coating on metallic pistol carand all patched. Also a lot fittings for same, for tridges is not, as many suppose, an animal scale. Address,

product, although in appearance it resembles tallow; it is a vegetable growth, and is known as Japanese wax. The Japanese wax tree is very remarkable, not unlike a sumac, years' experience as roller and 6 years as assistant varnish so largely used in Japanese lacquer and address, and it is from one of the same species that the superintendent, desires a position; will be disenvaried in manufactured.

Office of The Iron Are S. Decided.

A sleeper is one who sleeps; a sleeper is also a car where a sleeper can sleep; and a sires a situation as selesman.

HARDWARE.—A gentleman thoroughly posted in the jobbing and retail Hardware business, is desirous a situation as selesman.

Hardware, Gins, Pistols and Cutiery debing and retail Hardware business, is desirous a situation as selesman.

Address.

Office of The Iron Age. 83 Reade St., New York.

H. M.,

Office of The Iron Age. 83 Reade St., New York.

WANTED—An experienced Steel traveler; one sleeper runs over sleepers, as well as sometimes leaps off the track.

WANTED—An experienced Steel traveler; one sleeper runs over sleepers, as well as sometimes leaps off the track.

WANTED—An experienced Steel traveler; one sleeper runs over sleepers, as well as sometimes leaps off the track.

The German Iron Trade,-Advices om Germany are more satisfactory, and veral contracts for iron, iron wire and lling material are looked forward to. The Phenix, of Laar, has secured an order for Phenix, of Laar, has secured an order for 281f. 25c. per ton for delivery at Ruhrort, as against 311f. 50c. demanded by the Bochum Works for delivery at Montigny. At the recently held general meeting of the Bochum Iron Works, Herr Baare read a lengthy report on the condition of the German iron industry, in which he referred to the discussion which has taken place with respect to the variation between prices for foreign and inland supply. He said that while the home demand is declining, the production is increasing, and, therefore, German manufacturers have to seek fresh outlets abroad for the sale of their goods, and in order to resist the competition of English manufacturers, prices have to be accepted which leave only loss to the makers. A reduction in the production would not have the same effect, because, to attain cheapness, it is essential that the production should be large. For each ton of rails that is exported at a loss to the German manufacturer, at least six times that quantity of raw material is imported, giving remunerative employment to the working classes and dividends to the railways. rolling material are looked forward to. The Phœnix, of Laar, has secured an order for 450 steel tires for the Alsace railways at

We learn that the New York Pneumatic We learn that the New York Pneumatic Tramway Company, of which Mr. Boyd is president, have nearly ready for trial an engine designed to operate on the elevated railways. It will be remembered that this company ran engines for a considerable period on Second avenue, but finally withdraw, hoping for better results in another direction. The new engine is said to work well, but it will not be brought out before some time in October. ne time in October.

Since the American line of steamers to Brazil was withdrawn, sailing vessels or a triangular route by steamer via Liverpool have been the only means of communication. Mr. John Roach confirms the report that a new direct steamship line will shortly be established. It is seriously contemplated, he says, to take advantage of the French laws to build the ships jointly with French and American capital, and it is possible that Brazil may demand to have them under her own flag. Since the American line of steamers to

Special Notices.

New and Second-Hand

Horizontal Engine, 3 in.x6 in.

ferty,

ferty,

Horizontal Engine, 3 in.x6 in.

Beam Corliss Engine, 500 H. P.

Beam Corliss Engine, 500 H. P.

Beam Corliss Engine, 500 H. P.

Horizontal Return Tub. Hollers, 100 h. p. each.

Hor. Tubular Boiler, 6 ft x14 ft. 67 4-in. tubes

Hor. Tub. Boilers, 45 ft.x13 ft. 434 in. tubes

Locomotive Steel Boiler, 30 h. p.

Locomotive Steel Boiler, 30 h. p.

Two Hor. Tub. Boilers, 4% ff. x13% ff., 43 4 in. tube One Locomotive Steel Boiler, 30 h. p.

**PANNERS BY THE TOWN FOR THE STANDARS STEEL SELEVEN LAthes, 18 in. x 8 ff. New.
One Lathes, 18 in. x 8 ff. New.
One Lathe, 17 in. x 8 ff. Lincoln.
Five Lathes, 16 in. x 6 ff. Wood & Light.
One Lathe, 16 in. x 6 ff. Wood & Light.
One Lathe, 16 in. x 6 ff. Wood & Light.
One Hilling Machine, 30 in. x 8 ff.
One Burleigh Rock Drill, No. 4. New.
One Burleigh Rock Drill, No. 4. New.
One Hotchkiss Compressed Air Hammer, 40 lbs.
One Pipe Cutting Machine.
One Styles & Parker Foot Press.
One Bilss & Williams Foot Press.
One Delss & Williams Foot Press.
One Cameron Steam Pump, No. 2.
One Knowles Special Pump, No. 7.
One One in Tapping Machine.
One Daniels Planing Machine.
One Donels Planing Machine.
One Donels Plane.
One Pipe Cutting Machine.
One pair Paper Rolls.

a large stock of Shafting. Pulleys, Hangers, Vises (Wrought and Cast), and other Miscellaneous Machinery.

GRAY'S MACHINERY DEPOT 37 Dey Street, New York, U. S. A.

Machine Tools.

New and second hand. Among them a 200-ll New and second hand. Among them a second Bradley Hammer, Pulley Lathes, Boring Table, Foundry Ladles, Engines, Pumps, &c.; also, a great variety of Patterns and Drawings. Send for eircular.

WM. B. PARDEE,

FOUNDER, P. O. Box 3465, New York City.

FOR SALE.

Eight H. P. Portable Hoister, J. S. Mundy; & H. P. Horizontal Engine; new Vertical Boiler, & in. x to ft., 124 tubes; & x & Double Engine, link motion; & in. x to ft., 124 tubes; & x & Double Engine, link motion; & in. x i

For Sale.

Four Pollers, each 26 ft. by 42 inches, two 16 in. flues in each. Have been in use about seven years,

Address, Office of The Iron Age, 83 Reade St., New York

HARDWARE.—A gentleman thoroughly poster in Hardware, Guns, Pistols and Cutlery during a situation as salesman.

P. O. Box 3018, New York City.

Special Notices.

FOR SALE.—Machinery in Store

in swing Drill Lathe 4 ft. bed, hollow

One S in. swing Drill Lathe 4 ft. bed, hollow spindles.

One 8 x 12 Portable Engine and Boiler.

Two 8 x 12 Stationary Engines.

Three 9 x 12 Stationary Engines, link motion, suitable for hoisting purposes.

One Cooper Steam Pump, 9 in. steam, 4 in. water, 4 in. stroke. The above are all second hand, relited, and will be closed out cheap.

Wood-working Machiaery, Knowles' Steam Pumps, Fan and Cupla Howers, Exhaust Fans, mery Goods and manufacturers' supplies. The slebrated Phan In annufacturers' supplies. The presence of the propose of the presence of

H. PRATT, 15 S. Water St., Cleveland, O.

For Sale.

The Industrial Works of Shamokin, owned and successfully carried on for a number of years by the late Wm. Brown, deceased, consisting of Foundry and Machine Shop, and a large stock of Patiens regarded as part of the property. Boiler Shop, Blacksmit Shop and Factory for the manufacture of heavy coal screens. Well located in the borough of Shamokin, Pa., with the best facilities for shipping by rail, and surrounded by a district contributing all the work that a shop of that kind can possibly turn out. The works are now running, but in a very short time possession can be given. Easy terms of payment are offered to suit a purchaser of limited capital.

Offered for sale by

WM. McILVAIN & SONS, Reading, Pa.

Reading, Pa.

To COLLIERY OWNERS, IRON MARTERS, &c.—
practical man, with large experience in manage department of the varied classes for ment of the varied classes for ment of coal and from the manage department of coal and from the manage at industry, or in connection with iron works, the oughly conversant with the making, calcining iroc stone, &c., offers his services to any gentleman of company requiring confeasial practical aid in concurrent of the management of the provision of the property of the provision of the provisio ignicoring adaptable to these industries. Highe rtificates of ability, energy, integrity, &c. Addres A. Baltnes, 831 Willoughby ave., Brooklyn, N. Y.

Superintendent Wanted.

A man thoroughly competent to manage are stablishment consisting of Machine, Pattern and Blacksmith Shops, and Iron and Brass Foundry employing 75 men, manufacturing steam machinesty, and doing general fob work.

Address, JOHN M. MORGAN,
Care of B. F. HARRIS,
No. 3 Exchange street, Rochestor, N. Y

Wanted.

By an engineer of extensive experience, thorough sowiedge, exemplary habits and satisfactory personal and professional credentials, a position as superintendent or manager of an iron or steel rolling mill. A thorough, practical acquaint-sace with all departments of rolling mill work quaranteed. Address,

Office of The Iron Age, 83 Reade St., New York.

Wanted.

A good practical mechanic, capable of taking arge of the inskie work of a Bolt and Nut Facory. He must furnish good reference.

LOCK BOX 1746, Youngstown, Ohio Engine and Fly-wheel for Sale,

One second-hand double engine in good running order, with Mason link motion, made by the Law Also, a 20-ton fly wheel, 20 feet in diameter, made from the very best of charcoal iron.

The above will be sold at a bargain if applied to one that the control of the of charcoal iron, sold at a bargain if applied for WASHBURN IRON OO, Worcester, Mass,

MACHINERY ON HAND FOR SALE

ntal Slide-Valve, Center-Crank, 20 Hoi 12); good as new, with Pulley and F louble-link motion; can be run in eith

Horizontal Slide-Valve, Center-Villey and FlySE (8 x 12); good as new, with Pulley and FlySE (8 x 12); good as new, with Pulley and FlySE (8 x 12); good as new, with Pulley and FlySE (8 x 12); good as new, with Pulley and FlyIn good Fulley Service, Servi \$190. Earle STEAM PUMP, 1½-inch suction, 6-inch 8. Price, \$100. STEAM PUMP, 1½-inch suction, 6-inch stroke;

will put in good order, \$60.

One Torrent STEAM PUMP, new, No. B, M-inch suction, Fries, \$25.

Six BOILER FEED PUMPS, new, with tight and BRADFORD & ANTHONY, BOSTON. YORK & SMITH, Cleveland, Ohio.

Vertical Boring and Turning Mill

Wanted,

cond hand, to swing 6 to 8 feet. Stat ne of delivery, price, age, condition an STOKES & PARRISH, 30th and Chestnut sts., Philadel

Wanted.

To arrange with responsible parties having proper facilities and experience for the manufacture of some improved wood-working machinery, destined o meet extensive sales when thoroughly introduced. For further particulars, address B H

Office of The Iron Age, 83 Reade St., New York

Wanted.

An experienced man to superintend lead smelt ing, calciners and stock furnace process. Apply with reference, stating salary expected. DESLOGE LEAD CO.,

Bonne Terne St. Francois County, N. C.

A YOUNG MAN, thoroughly posted in the job bing and retail Hardware business, is desirous of a position. Has considerable acquaintance with the Southern and Western trade. At refer O. P.

Forty shares for sale at a discount.

EDWARD FRITH & SON,
241 Pearl street, New York.

Special Notices. AUCTION NOTICE. BISSELL & WELLES, Auctioneers.

LARGE TRADE SALE

Hardware, Edge Tools, Files, Table Cutlery, Tinned and Enameled Ware, &c., &c.,

TUESDAY and WEDNESDAY, September 27 and 28,

At 83 Chambers and 65 Reade Sts., New York This sale will comprise a large line of Shel lardware, Edge Tools, Shovels and Spades, &c clieo, 300 lots Tinned and Enameled Ware, direc rom factory. Also, by order of

THE NICHOLSON FILE CO.,

A complete assortment of their Royal Brand of files, being the surplus that has accumulated during the past year. This brand is well known, and will comprise a full assortment of Flat Bastard—3, 4, 5, 6, 8, 9, 10, 16, 18 in. Flat Second Cut—3, 4, 5, 6, 8, 10, 12, 14, 16 in. Flat Smooth—3, 3½, 4, 4½, 5, 6, 8, 10, 12, 14, 16 in. Half Round Bastard—3½, 4, 5, 6, 8, 9, 10, 11, 13, 14, 16 in.

Aper Saw Files—2/2, 3, 3/2, 4, 4/2, 5, 5/4, 6, 6/4, 5, 9, 10, 12, 14, in.

Double Cut Tapers—3, 4 in.

Hand Saw, Blunt—6 in.

We would call the attention of the trade to this ale of Files as being worthy their special notice, uyers who cannot attend the sale can send their ders to the auctioneers, and goods will be purassed without charge. Also,

SPECIAL SALE OF Table Cutlery, Carvers and Butcher Knives,

omprising from 6 to 10,000 dozen. Also, a large de of Plated Knives, Forks and Spoons, 4, 8 and

NOTICE.

TO THE HARDWARE TRADE, Retail and Wholesale.

Before buying, send to me for quotations. A Hardware and Tool Store Will give special figures lower than market rates on a large line of Shelf Hardware and in Jarsen City. Probably the most desirable

A. W. WHEELER, 141 Lake St., Chicago.

Notice.

The undersigned firm would be pleased to accept the representation of first-class firms manufactur-ing machinery. Address.

J. S. LIZARS & CO., flanufacturers of Shilds & Lizars' Feed Water Heater and Purifier, and dealers in New and Sec-ond-hand Machinery, 33 Fifth Avenue, cor. Lake street, Chicago, Ill.

The Sherman Process Co.

9 Pemberton Square, Boston, Mass., ssue Licenses to use the Process for the Manufacture of Iron and Steel

in the Bessemer Converter, Crucible, Siemens Martin, Puddling, Blast and Cupola Furnaces. The use of this Process improves the quality of the product, saves fuel and labor, and does not re-turing any change in furnace or manner of working. uire any change in furnace or manner of workin See page 17 of The Iron Age of Oct. 25th, 1877.

NOTICE!

SPECIAL SALE OF

RAZORS

STEEL:

ts History, Manufacture, Properties, and Uses.

Its History, Manufacture, Properties, and Uses.

By J. S. JEANS,

Secretary of the Iron and Steel Institute.

Section I. History of Steel: Chap. I. History of Steel: 2. Early History of England: 3. Progress of Investigation of the History of Steel: All POR SALE BY

DAVID WILLIAMS, 83 Reade Street, New York,

To Capitalists.

The advertiser has a complete, first-class rolling mill, with capacity of 30 tons per day, and controls special patents, which will give a profit of not less than \$10 per ton, with orders months in advance; \$50,000 is wanted (in installments) for a cash work in capital for which a half interest will be given. The opportunity for profitable investment is selfable investment is selfable. Address,

C. P. E.,

Office of The From Age, 220 S. 4th St., Phila., Pa.

Special Notices. JOB LOT.

ELEY BROTHERS' GENUINE BLUE CARTRIDGE CASES,

Twelve Gauge. The best paper shell in the market. For sal

heap. Supply limited. ALFRED FIELD & Co.,

93 Chambers St., N. Y.

HEAVY IRON WORKS WANTED. An Eastern Manufacturing Company, doing a profit ble business in heavy wrought iron structure, the infusion of which they control res, the inted States and Canada, wish to establish additional rovince of Ontain. West, South, Pacific Coust and vaniages for receive Must have instellars freight annifered in the control of WM. O. DOUGLAS, Binghamton, N. Y.

For Sale.

Round Bastard—3, 4, 5, 6, 8, 9, 10, 12, 14, 15, 16 in.

Hand Second Cut—5, 6, 8, 10, 12, 14, 15, 16 in.
Hand Smooth—4, 5, 6, 7, 8, 9, 10, 12 in.
Hand Smooth—4, 5, 6, 7, 8, 9, 10, 12 in.
Hand Smooth—4, 5, 6, 7, 8, 9, 10, 12 in.
Hand Smooth—6, 5, 6, 7, 8, 9, 10, 12 in.
Hand Smooth—6, 5, 6, 7, 8, 9, 10, 12 in.
Hand Smooth—7, 12 in.
Horse Rasps—10, 11, 14 in.
Horse Rasps—10, 11, 14 in.
Horse Rasps—10, 12, 13, 16 in.
Pitt Saw Files—1/2, 6, 7, 8, 16 in.
Square Bastard—5, 6, 7, 8, 9, 11, 12, 13, 14 in.
Slim Tapers—3, 4, 5, 6, 7, 8, 16 in.
Taper Raw Files—1/2, 6, 7, 8, 16 in.
Double Cut Tapers—3, 4, 5, 6, 7, 8, 16 in.
Double Cut Tapers—3, 4 in.
Hand Saw, Bunt—6 in.
We would call the attention of the severe who cannot after the perfectlers about the severe who cannot after the perfectlers are to the approximate the perfectlers are to the approximate the perfectlers are severe who cannot after the perfectlers are severe who cannot after the perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers and perfectlers are miles of the perfectlers are

Two Corliss Condensing Beam Engines,

in. x 72 in. cylinders.
THE HARTFORD ENGINEERING CO.,
Hartford, Conn.

For Sale.

Stock of Hardware, Fixtures, and Good Will of the subscribers, in the city of Norwich, Conn. Only one other hardware store. Population

FULLER & PARISH. For Sale.

in Jersey City. Doing an excellent business. Inquire of H. LUTTGEN.

For Sale.

Hardware Stock and Trade in Michigan.

Those wishing to buy a complete stock and fine rade, and in a beautiful place to live, will find a rare chance by addressing
S.,
Office of The Iron Age, 83 Reade St., New York.

For Sale.

Hardware Stock and Business. d in one of the best towns of Northeastern vania. Stock clean and well assorted to the requirements of the trade wher Business of 30 years' standing. For the full particulars are towns to ns and full particulars apply to JAMES S. KUHN, Towarda, Pa.

For Sale. Ten Double Acting Power Punching Presses, A1 order. Eight Single Acting Power Punching Presses, A1 order. Most of the double acting Presses, A1 order. Most of the double acting Presses, A2 order, Most of the Williams Punching Press. One hundred and twenty-seven Foot presses A1 order, most of them square slides, Address, THE GEORGE PLACE MACHINERY AGENCY, 121 Chambers and 1c3 Reade sts. N. Y.

For Sale.

Stock of hardware, stoves and implements, and ore furniture, in one of the best towns in I HARDWARE,

Box 366, Salina, Kansas. FOR SALE LOW.-ENGINE.

A Vertical High-Pressure Steam Engine, com blete. Cylinder, 24 in. by 48 in. Built by A. J. sweeney & Son. Can be seen in daily use at our nail factory. LA BELLE IRON WORKS, Wheeling, West Va.

For Sale.

SECOND-HAND DROPS AND LIFTERS BEECHER & PECK, Lock Box 122, New Haven, Conn.

For Sale.

One so-inch Engine, one 100-horse Locomotive Soiler; two large Pulleys, 30-inch face; a 20-inch Rubber Belt, &c. All in good order, and will be sold for less than value to make room for larger. Can be seen running at AKRON RUBBED WORKS, Akron, Ohlo.

A Solung Man wants a position as traveling Wanted. Fem van, N. 1.

A solung Man wants a position as traveling Wanted. Fengagement with an iron manufacturing firm, either as salesman, agent, superware business.

Address, Box 93, Lewistown, Pa.

E. M. DIRDEALL. Fenn van, N. 1.

Wanted. Fengagement with an iron manufacturing firm, either as salesman, agent, supermare business.

References given when required.

Address, E. McMillin, Pomeroy, Ohio.

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Trade Report.

Office of The Iron Age, Wednesday Evening, Sept. 21, 1881.

The decease of the President has temporal rarily overshadowed all business transactions, although happily entailing no monetary disturbance whatever, either at home or in the markets of London and the Continent. The fact may be cited as affording indubitable evidence of the stability of our institutions, as well as of the general soundness of the financial situation. On Tuesday morning, immediately succeeding the sad events at Elberon, the commercial exchanges of our chief cities opened with no indication of excitement, and after attention to all demands of a peremptory nature, were closed by general consent. Rates for money remained as before, and the Governmen credit, as reflected by transactions in bonds, was unshaken; the London market was even firmer than for several days previous, and American railway shares advanced. In regard to the observance of the obsequies of the departed Chief Magistrate, President McKay, of the New York Stock Exchange, obtained a reply from Attorney-General MacVeagh, who was addressed on the subject, that next Monday would probably be made a legal holiday by proclamation. The London Stock Exchange, in sympathy, will also close on that day.

The week in Wall street opened irregu larly, and with a generally heavy trade. The market was more or less manipulated in the "short" interest. On Saturday railroad shares were stronger, notwithstanding the critical condition of the President, it being reported that the managers had virtually agreed to a treaty of peace, and that soon a meeting would take place in further ance of this object. Later, news came that the President was failing, but unexpectedly the market advanced and closed strong. On Tuesday morning prices were watched with much anxiety, but, so far from there being any evidence of panic, great strength and confidence became apparent. In the two hours of business, prices of the leading stocks advanced I @ 2¼ %, and closed strong. It was remarked that the Stock Exchange had not before been closed, except as a legal holiday, since the panic of 1873. To-day the market is firm, with advancin

this port during the week ending Sept. 16 in values during the week have all been upwere \$2,979,705, consisting of \$2,915,788 in ward, and will be found below. were \$2,979,705, consisting of \$2,915,793 in wat, and and \$63,917 in silver, as against a total A meeting of the Atlantic States Nail gold and \$63,917 in silver, as against a total A meeting of the Atlantic States Nail gold \$4,342,811 for the week ending Sept. 18 Manufacturers' Association was held in this of \$4,342,811 for the week ending Sept. 18 as follows with the movement during the corresponding periods last year:

Gold	1881. \$42,827,867	January 1 1880. \$22,523,021 3,811,597
Total		\$26,334,618 August 1
Gold	1881. \$14,203,608	2880. \$20,548,654 617,091
Total	\$14,578,981	\$31,265,745

The market for foreign exchange con tinues inactive, but is fairly steady at 4.80 1/2 @ 4.81, and 4.84 1/2 for prime bankers' sterling, the posted rates being 4.81 1/2 and 4.85. With the exception of \$80,000 landed last Saturday, there have been no further re ceipts of foreign gold, and, after diligent inquiry, we cannot learn that any additional amounts are now affoat. The exports of domestic produce during the past week were a little above the usual average, the total being \$8,345,639, against \$8,728,104 for the same week last year. In well-informed circles it is believed that as local speculations in grain and cotton subside, the large export orders, now under limit, will be felt on the market. A good supply of cotton bills was looked for at an earlier date than

The local money market worked comfort ably easy all the week at 5 and 6 % for call loans, with exceptions at lower rates. Time 11/2 inch. loans, however, rule at 6 %.

There are as yet no indications of Secre-There are as yet no indications of Secret Schanges in prices which they will mail to tary Windom's intentions in the bond mar, their customers in a day or so. The revised ket, and none can be immediately looked prices, which went into effect on the 20th for, but Government 4s and 4½s are firm, instant, are given below, and show advances in prospect that a large share, if not the on former figures of from 10 to 15 per cent, whole, of the 3½ per cent, extended bonds. These advances, we are informed, have will be paid off before February, when the been advanced by all of the looking makers. will be paid off before February, when the abeen adopted by all of the leading makers first six months of the extended 5 per cents of these goods:

At a meeting of the New York Chamber of Commerce this afternoon, President Babcock in the chair, fitting resolutions were adopted in honor of the illustrious dead. A meeting of the Maritime Exchange wa fully attended.

The bank return for the week shows a loss of \$516,925 in reserve, which now stands at \$454,125 surplus, against \$5,302,-825 at this time last year, and \$4,903,750 at the corresponding period in 1879. The loans show a loss of \$466,100; the specie is up

Government bonds continue strong and the entire list advanced 1/6 to-day. The

closing quotations were as follows:
Bid.
U. S. 414's 1891 registered
U. S. 416's 1801 coupon 11379
U. S. 4'8 1007 registered110%
U. S. 4'8 1907 coupon
U. S. Currency 68 1895
U. S. Currency 68 1896
U. S. Currency 6s 1898
U. S. Currency 68 1899
Sixes continued
Fives continued

The following	is	an	analys	s of	the b	ank
totals of this wee	k	con	npared	with	tha	t of

st week :				
	Sept. 10.	Sept. 17.	Comp	parison.
ans	\$334,001,000	\$333,625,800	Dec.	\$466,100
ecie	64,601,700	63,079,700	Inc.	478,000
gal t'd'rs	15,076,400	14,641,500	Dec.	514,600
t.reserve	79,578,100	79,641,500	Dec.	36,600
posits	314,828,200	300,719,500	Inc.	1,981,300
serve re-				
quired	78,707,050	79,187,375	Inc.	480,325
rplus	971,050	454,125	Dec.	516,905
rculation.	19,782,200	19,785,800	Inc	3,600
	MINING	STOCKS.		- 1
The clos	ing quotat	ions for m	ining	stocks
e as follo	WB:			
			Bid.	Asked.

are as follows :		
		Aske
Amie		. 35
Alice	6.00	6.50
Alta Mont	1.90	9.00
Bechtel		1.00
Bodie		9.90
Buckeye		80
Bulwer		
Bull Dota	1.50	1.55
Bonanza C		15
Boulder	17	
Boston C	HH	*5

	Caledonia	 1.20	X .
	California	 0.5	
	Climax	 38	
	Consolidated Imperial	 93	0 1
	Consolidated Pacific	 	
	Consolidated Virginia	 2.15	2
			7.
ť	Cent. Ariz	 1.90	a.
,	Cherokee	 1.30	2
u	Dahlonega	 5	
	Dun'erberg		
1	Dunkin	 50	
	Eureka C	 	=8
	Findley	 	
			8.
9	G. Placer		
3	Granville		
	Goodshaw		
Ł	Great Eastern	 16	
	Gold Str		
١	Hukill	 	25.
	Hibernia	 37	- 0
١	Toon Cillmon	 37	

-1	Croad But	
1	Hukill 70	
٦	Horn Silver	25
d	Hibernia 37	
,	Iron Silver	
		I
-1	Little Pitts 2.50	
4	L. Chief x.35	¥
м	MAPIDOSA =.59	3
Ы	Mar. Pref 2.50	
1	Moose 80	
1	Miner Boy 42	
а	North Stan 20	
1	Nor. Belle 19.00	
1	Ori, and Mil 89	
d	Rannah'k 18	
1	Robinson13.871/2	
1	Robinson 13.87% Red Eleph.	
1	S. Nevada18,50	19

85 94 3.90 5.75 33.75

GENERAL HARDWARE.

Business continues active, and the tone of The importations of specie and bullion at the market is strong. The important changes

last year. The importations since the 1st of city on Thursday last, at which the card January and since the 1st of August compare was advanced 25 cents, making 10d to 6od was advanced 25 cents, making 10d to 60d \$3.40, net. The demand during the week was fair and the tone of the market is firm. We quote 10d to 60d, \$3 40, net, in less than carload lots, and \$3.30, net, in lots of 200 kegs and over. We print below the nev

rd	:					
	MAIL CARD					
	Comm	on Fence	and 8	sheatl	ing	

3d	4.9
3d, Fine	5.6
Coopers, Slating, Tobacco, Warehouse	use.
	Per keg
A and language	
rod and larger	
8d	
6d. and 7d	
4d. and 5d	
3d. Slating	5.4
Spikes of all kinds	3.6
Box and Flooring.	
	Per keg
rod, and larger	84.I
8d	4 4
6d. and 7d	4.6
4d. and 5d	4 9
Bradhead or Finishing.	
Diadicad of Financia,	Per keg
rod. and larger	
8d	
6d. and 7d	
4d. and 3d	elen con
Fine finishing \$1.35 a keg above same	stre com
mou.	
Clinch Nails.	4/ 3
Per keg.	
3-inch and larger \$4.90	\$2.7
2 % and 2 % inch 5.15	2.8
2 and 2%-inch 5.40	2.9
v3/-inch g.6g	3.0

Sargent & Co. have in press a sheet of changes in prices which they will mail to

BARGENT & CO.'S REVISED DISCOUNTS

	September	90.	1821
Page of	mag-roughout	any	
Catalogue.		Di	count.
50-57, Gate Hinges			
57-59. Latches			.60&10
us, asmingorm, 33 ou 30		000	- GOOD TO
43 00 40			
63, " Rail, Nos. s and 4 of	nly	0.0	55
68, Bolts, Nos. 300 and 320,			
350			
WINDS DONG			
77	*********		
78, Dans Dathana Name			
115, Door Buttons, Nos. 3 an	d 10		55
116, whole par 147-149, Screen Door Catches			00
160, 160a, Lever Door Bells			00
161-165, Bell Levers			55
166, Bell Pulls	*********		*****55
166, Bell Pulls 262, Japanned Chest Handles	Nos voto	20	55
62 Riveted Lift		.3.	55
64-279, Coat and Hat Hook.			33
nos sos Hotel			
106 Flat Rack			
206, 207, Clothes Line " .			65
Rose st st st			60
co. Wardroba			60
200, 201,			60
207. Chandelier and Lamp H	00k		
272 Change list of W. N. Bolts	, NOS. 37 to	S7.	and
make all W. S. Bolts			6n
372, Window Spring Bolt Soc	kets		55
379, Sash Cord Irons			50

THE RESERVE OF THE PERSON NAMED IN	S. Sec.		-
			12
379. Axle Pulleys			45
380, 381, Axle Pulleys			45
382, 383, Axle Putleys			50
384. **			50
402, Foot Scrapers, Nos. 1 to 4, no cl	nang	е	50
403-405, "			50
406, Shelf Brackets, Nos. 44 and 48			550
444, Grindstone Fixtures, Nos. 20 to 2			
447, Blacksmith Butterises	3		75
458, Saw Rods			60
476, Paper File Hooks			50
477, Paper Files and Clips			50%
478. Hang. T. Boxes			5
504 B, Coal Tongs.			50
505, Cupld Cotoboo No.			50
230, Cup'd Catches, Nos. 3230 to 3432	omy		45
240, Drawer Pulls			
243, 243,			
244,			
45.			
440, 347,			
330, 331, Shut. Knobs			50
336, 337, Sash Lifts			603
340, 341, Flush Sash Lifts			60
344, Shut. Bars, Nos. 55 to 57			608 10
345-352, "			foot roll
452, Brass Plumb Bobs, Nos. 5 and 6			571/
517, Table Fasts, No. co			60
" " No. 11			68
315-322. Bright Wire Goods, &c			
3#3, Wire S Hooks			60
429, Wire Meat Hooks, Nos. 43 to 45.			60
450. Well Wheels, change list of 8-in.	to \$	7 773	aka
discount on all Nos. 1 and 5	00 4	60 BES	con o
259, Flush Chest Handles and Flush	D II	ibar.	00 60
234 Trent Circus 113110162 Stud Linsti	To III	BILLE	0000

Spring Balances have been quoted in this arket recently at discount 15 and 10 to discount 20 and 10 per cent., the last name price, we are informed, being caused by misapprehension. The price of these goods is 15 and 10 per cent discount from list, and or orders amounting to \$100, net, an extra

The above prices are subject to their regu-

ar 10 per cent, extra discount for prompt

liscount of 7½ per cent. is allowed.
Wrought Iron Goods, such as Staples, Hooks and Staples, Hasps and Staples, Meat Hooks, Open Links and kindred goods have been advanced to per cent., and are now quoted discount 66% and 10 per cent. from

At a meeting of manufacturers of Bright Wire Goods, held on the 19th inst., the price vas advanced to discount 60 and 10 per ent., formerly discount 65 and 10 per cent. We have received the following:

Office of The Sons of Price of Bros., }
Valentioney, France, Sept. 1, 1881.}
To the Trade of the United States and
Canada.—Gentlemen: The superior qualiies of the celebrated "Peugeot Frères" Horse Clippers, manufactured by us, having rendered the sale very large, attempts are being made to obtain these goods from us through other channels than our regularly appointed agents, with the idea, we suppose of saving something in price. We beg to in of saving something in price. We beg to in-orm the trade of the United States and lanada that Messrs. McCoy & Sanders, 43, hambers street, New York, are our duly appointed sole agents for the sale of these ippers, and we solicit your orders through em. We shall use every means to prevent he usurpation of their rights by the actic of other houses. In order to secure the trade from imposition, every Horse Clipper made by us for shipment to America will bear the stamp U. S. on the handle, and we caution the trade against purchasing any Clippers without this our private stamp upon them. Yours respectfully,

The Sons of Peugeor Brothers.

Office of McCoy & Sanders, ers street, New York, Sept. 15, 1881. To the Trade.—GENTLEMEN: Referring to the above letter from "The Sons of Peugeot Brothers," we have pleasure to inform the Brothers," we have pleasure to inform the trade that in order to meet the increasing demand for the celebrated "Pougeot" Horse Clippers, we shall carry a very large stock, and shall be glad to receive their orders. We shall be pleased to furnish electrotypes to any of our friends who desire to illustrate these Clippers in their price lists, or to advertise them in local journals.

Yours respectfully.

Yours respectfully, McCov & Sanders. Russell & Erwin Mfg. Co. issued, under ate of the 15th inst., the following revised

iscounts: RUSSELL & ERWIN MFG. CO., NEW YORK AND PHILADELPHIA. Please correct the discounts in our No. 6

disc	ount	sheet as	follow	8:	
Page 168,	e. Hatfle	old's Shea	ves, cha		Dis. per
. 1	3/4	3	4	. 5	6 inch
- 43	3.00	4.00	5.00	6.00	7.00
378.	Fire I	ron Stand	8		4
37834	. Fire	Iron Sta	nd, No. a	25. 84.25	each5
4020	14	A III INCIO	Japann	ed	5
	8-8	6.6	Plated '	Fing	5
483.	4.0	Joint Bu	tts		5
4-20	4.0	8.6	Japan	ned Acor	miss
	4.0	4.6	Plated	66	5
484,	Narro	w Fast Joseph Loose	oint Butt	5	4
Br	ead F	ast			
485.	Cast I	Parliamen	at Butts.		5
488,	Wrou	ght Loos	o Joint H	utta, Jar	anned5
494.	Plate	Hinges,	6 to 12	inches, \$	6.33 per

Hook hinges, Nos. 1 and 2, 8 to 12 inches, \$6.33 per 100 lbs.; 14 inches and larger, \$5 per 100 per 100 lbs.; 14 inches and marks. Lbs. Clark's Surface Blind Hinges.

Clark's Surface Blind Hinges.
-avity Blind Hinges.
-Shepard's Locking Blind Hinges.
-rker's Surface Blind Hinges.
-clark's Gate Hinges, Nos. 1, s and 3.
-clark's Auf Pulleys.
-star Pulle Knives Swede's Iron Tinned Tacks.

merican " "
vede's Iron Cut Upholsterer's Tacks
" " Gimp and Lace Tacks ...
" " Carpet Tacks ...
ppper Nails and Tacks ...
American Iron Cut Tacks ...
Carpet "
pathered Carpet " Leathered Carpet ush Tacks.... ede's Iron Hungarian Nails. nerican
hishing, Trunk and Clout Nails.
hishing and Patent Brads.....
his Box and Chair Nails..... ket Nails. ance of List. and Well Chain, 9%#.

688, Coach Screws
698-699, Spring Balances15&1
700-707 '' '' '' '' '' '' '' '' '''
700-701. 704, Common Bar Steelyards.
Steel Bar Steelyards, change list
50 too too goo are soo the
\$5.50 7.00 9.00 10.00 11.00 12.03
720. Enameled Kettles
728 Crown Fluters
Eagle Fluters2
American Fluters
Knox Fluters
Extra Parts for all above
Geneva Hand Fluter
White Metal, Old Style \$12.00
Brass Base 16.00
Extra Bases Ne
White Metal \$4.50
Brass 7.50
729, Ice Axe and Pick
730, Dover Egg Beaters (do not furnish)
733, Hand Bells, change list
No
\$2.25 \$2.63
754. Bush Hooks
756, Revolvers
Robin Hood,
No. 1, Short, 22 cal \$0.75
No. 1. Long. 22 cal
No. 1, " Eng., 22 cal

od Handle Poker, Disco ne-half dozen in a case. We invite attention to the advertisement of Crosby, Sahler & Co., of Rondout, N. Y. on page 26, in which they illustrate the 'Ulster" Sled. This Sled was patented in 1877, and has been very popular since its ntroduction. W. H. Quinn & Co., No. 79 Chambers street, are their sole agents.

Wilcox & Howe, Birmingham, Conn. have issued, under date of September, 1881, a revised edition of their illustrated cata ogue of Carriage Makers' Hardware. The book contains 136 pages, and is handsomely printed and very comprehensively illusrated.

Reading Hardware Company have in prerevised discount sheet, which will be issued nder date of 20th instant, showing adrances in prices on about 300 items of their anufacture of from 10 to 15 per cent.

Francis T. Witte, No. 111 Chambers treet, has issued an illustrated catalogue and price list, in which he presents a large Miscellaneous Hardware, &c. The prices

BRITISH IRON MARKET.

Scotch Pig .- During the week the quoations for makers' iron have gone up sevral shillings per ton over the figures last uoted by cable, and the market is now firm at the rise, apparently owing to a genuine shipping demand, the returns for less week showing a considerable increase over the orresponding period of last year. In addion to this, the Scotch and Cleveland ironasters have agreed to limit their producon one-eighth. The advance during the week upon the different brands quoted by us, has been as follows: Gartsherrie, 2/6 Coltness, 2/; Glengarnock, 1/6, and Eglinon, 2/6. The following are to day's quota-

Gartsherrie, alongside, Glasgow..... oltness engarnock " Ardrossan.... Lighterage from Ardrossan to Glasgow is 2/ @ Bessemer Pig.—Under a good demand stocks there having been materially re-

rices remain firm. Lots equal portions Nos 1, 2 and 3, 59/-an advance of 1/6 per

Manufactured Iron.-There is more acvity in the market, prices ruling firm under a steady demand. There is no change

We quote Welsh, £5. 5/ @ £5. 10/. Old Ralls.—The offerings are light and less small. Old Tees are firm at \$4. 10/,

. i. f., United States ports-a reduction of on last week's quotations. Scrap.-Prices are steady, with offerings moderate and sales light. We quote Wrought.
£3. 15/, c. i. f., United States ports.

Freights,-Steam freights from Glasgow New York, 10/.

IRON.

perienced in placing orders for favorite. Antimony.—No change has occurred space our last report. We quote as hereto30 to No large transactions are reported. We fore, Cookson's brand 15¢, and others 14¢ @
115.

12 X, \$23; Gray Forge, \$21.

Scotch Pig.—Sales are American Pig.-The demand for Pig

Scotch Pig.—Sales are reported of 1500 ons, mostly Eglinton, on private terms, and, quote: Eglinton, \$21.50; Carnbroe, \$22.50;

the market is a trifle more in buyers' favor than was the case a week ago. Sales are eported of 1300 tons Ts at \$27.25, ex store. e quote Ts, \$27.50, and D. H., \$30.

Scrap.-No business worthy of mention has come to our notice during the week.
We quote: No. 1, \$27.50, ex ship, and orime selected from yard, \$30.

METALS.

Copper.—The market during the week nder review has been active, but prices emain as firm as ever and the general posion of the metal on this side is as strong as can be. Sales were confined to about it can be. Sales were confined to about 500,000 pounds Lake Superior, up to $18\frac{1}{4}\phi_{p}$, the closing quotation being $18\frac{1}{4}\phi_{p}$ (8) while there is no Baltimore, which may be nominally quoted $18\frac{1}{4}\phi_{p}$. London is again 10/ higher, cabling, as it does, £61. 10/ for Chili Bars and £67. 10/ for Best Selected. "London, Sept. 10.—A still further advance has been made in the price of Chili Bars, other descriptions also remaining at range. has been made in the price of Chili Bars, other descriptions also remaining strong. There is decidedly much more attention now being given to this long-neglected market, while the comparatively low prices ruling and reduced stocks give great support to the upward movement at the present time. The comparative strong which is the present time to back were ready sellers, now manifest a certain amount of eaverness even to purchase. ain amount of eagerness even to purchase, s they evidently believe it to be a ood time to average their previous purgood time to average their previous purchases, especially as regular trade is just now in a satisfactory condition." Manufactures are quoted as under: Pit and Hot rolled Flat Bottoms, 27¢ per pound; Cold-rolled Flat Bottoms and Pit Bottoms, with flange cut, 23¢; Braziers, 26¢ @ 32¢, as to size and weight; Circles, 29¢ @ 32¢; Sheets, 26¢ @ 29¢; Sheathing, 24¢, and Bolt Copper, 26¢. Tin.-Our market has retained its firm

ne, although no wholesale business has en done, partly on account of the death of

been done, partly on account of the death of our President, which will more or less interfere with general business until Tuesday next. It is, however, not probable that prices will decline. London cables a strong market, with a large business at £93. 10/@ £94 for spot Tin, while futures are up to £95. Singapore cables a parity of 22¢ here. Shipments during the first half of September from the Straits to the United States have Shipments during the first half of September from the Straits to the United States have been zoo tons, and to England 100, both moderate quantities. We quote at the close, large lines: Straits, 21½¢ @ 21¾¢; Australian, 21¾¢; Lamb & Flag, 21¾¢; Australian, 21¾¢; and Billiton, 21¾¢. "London, S-pt. 10.—A large business continues to be transacted in this metal, and from day to day higher prices have been realized. On Monhigher prices have been realized. On Mon-day the market opened for foreign at about £90. 10/, and the price steadily advanced to Special Report by Cable to The Irea Age. 1.250. 10/, and the price steading advanced to Eq. (10/), closing at the best, while on Tuesday a similar further advance was made. On similar further advance was made. On Wednesday business was done between £q1. 7/6 and £q1. 15/, and yesterday the official quotation was £q1. 10/ @ £q1. 17/6, the market closing to-day at £q1. 15/ @ £q2. This upward progress is the natural result of good deliveries, curtailed supplies, the control of the petter prices will be realized, for the move-ments are not caused merely by specula-ion, but also from legitimate causes." Tin tion, but also from legitimate causes." Tin Plates.—There is no change here. The market is inactive, but firm. We quote toward the close, large lines, ordinary brands, per box: Charcoal Bright, \$5.75 @ \$5.87½; ditto Ternes, \$5.30 @ \$5.40; Coke Tin, \$5.10 @ \$5.15; and ditto Ternes, \$5. Outside lots of Coke Tin are worth, at Liverpool, 15.6, and from manufacturers' hands, 16/6. Mail advices from Wales are exceedingly firm. "London, September 10.—This market is in a fairly sound and satisfactory condition. Prices here are firm, and in the Welsh districts are said to have displayed an upward tendency, owing to

duced. Lead.—Sales for the week figure up 300 tons Common Domestic at 5 1/2 \$\psi\$, now held at 5 1/2 \$\psi\$, and 200 tons Refined at 5 1/2 \$\psi\$. The neral tendency remains one of great mness. The scarcity of Lead for immewity in the market, prices ruling firm general tendency remains one of great nder a steady demand. There is no change thirmness. The scarcity of Lead for immediate delivery continues, and the only check upon prices importation offers. "London, September 10.—This market continues firm, but the amount of business doing still keeps rices are firm. Ordinary Sections are of a limited character. The shipping trade remains especially slack, and prices are supported chiefly by a reported difficulty in obtaining spot parcels." Manufactures are a steady demand and prices are firm. The guoted wish, £5, 5/ @ £5, 10/. Pipe, 7¢; Tin-lined ditto, 15¢; Block Tin ditto, 35¢; Drop Shot, 7¢.

Spelter and Zinc .- Activity in Common Spetter and Zinc.—Activity in Common for Domestic Spetter has not revived, but there is nevertheless greater firmness, probably in sympathy with the generally strengthened attitude of all metals on this side. We therefore quote the range 5½\$\phi\$. Of Silesian, 50 tons sold at 5½\$\phi\$. Sheet Zinc is better, and may now be quoted 7¼\$\phi\$. "London, Sept. 10.—A large busihas been done in this article on the Continent, where prices are dearer. Here also tinent, where prices are dearer. Here also prices are somewhat firmer, and we quote

"Trade is moving along fairly," said one tons, mostly Eglinton, on private terms, and, in lots, 1000 tons of various brands. The questioned on the subject, and this appears to be a correct statement of the situation, some brands advanced during the week. The Possibly there is a little improvement, commarket is entirely bare of Garthsherrie, and pared with one week ago, but not much we omit quotations in consequence.

We looked for in the immediate future. In the contraction of the subject, and no change is looked for in the immediate future. In the contraction of the chief spokesmen in coal circles, when a contraction of the subject, and this appears to be a correct statement of the situation, some brands advanced during the week. The possibly there is no accurate to the subject, and this appears to be a correct statement of the situation. of the chief spokesmen in coal circles, when quote: Eglinton, \$21.50; Carnbroe, \$22.50; best grades of anthracite there is no accurate Coltness, \$24.50 @ \$25; Glengarnock, \$23, mulation, the demand and supply being well and Langloan, \$25. and Langloan, \$25.

Rails.—Sales are announced aggregating companies would run short. The increased couplings with more activity, some of the companies would run short. The increased couplings would run short. The increased would run short. The increa

freights are \$1.50; to Providence, \$1, but are not quite as stiff as one week ago. The quotations are: Lehigh \$4.20 @ \$5 for Ut Hardware. Iron. Steel and Metals int Lump; \$4.25 @ \$4.45 for Grate, Egg and Stove; Chestnut, \$3.90 @ \$4.05 for Lump, Grate, Chest. Sept. 20, 1881: nut and Egg; Stove, \$4.20.

In Bituminous Coals prices are spoken of as a little stiffer. There is an almost total cessation of deliveries by canal at George-town, and boatmen demand an advance of 20 cents per ton, to take effect when navigation is resumed

Pottsville Miners' Journal says "Orders have been booked in sufficient quantity to keep the trade moving briskly for the present, and as the season usually closes with November, there is not much time left to speculate upon chances. The product of Anthracite is already nearly four million tons The product of in excess of that of last year, and it is likely to keep at this distance in advance for the remainder of the season. Should this be the case the aggregate production for the year po will be 27,500,000 tons, or an excess of nearly 1,500,000 tons over the year 1879 when the product was about 5,250,000 ton in excess of the largest previous production for any one year."

coal product of the Schuylkill region for the week ending Sept. 10, was 159,254 tons, as against 159,978 tons for the week previous, and 174,303 tons for the corres-ponding week of last year. The total product for the week was 604,128 tons, against 655,708 tons for the same week of last year, a decrease of 51,580 tons. The total output for the year so far is 18,721,185 tons, against 15,047,057 tons for the corresponding period

15,047,057 tons for the corresponding period of last year—an increase of 3,714,128 tons.

The Philadelphia Ledger says: "It is fair to presume, from all the surroundings, that supply and demand hence to the end of the coal year will run fairly even together, thus removing all apprehension of any material rise or fall in prices or any great excess in supply or falling off in stock."

OLD METALS, PAPER STOCK, &c.

The purchasing prices offered by dealers

Copper, heavy	\$0.14	@	\$0.15
	.12	0	.13
Yellow Metal "	.0856	0	,00
Brass, heavy	. TT	63	. 1116
Brass, light	oß	03	.0856
Composition, heavy "	.14	0	.15
Lead, heavy		6	.04 1/2
Tea Lead	.033/4	0	.041/4
Zinc	.03	0	
Pewter, No. 1	.83	60	
Pewter, No 2	.08	ä	
Wrought Iron ton	23.00	6	.09
Light do	11.00		24.00
Stove Plate **	12.00		*****
Machinery do			*****
Grate Bars	15.00	80	15.50
CAN MINE D	5.00	(D	0.00
The prices current (prices	paid	by	local
dealers) for Rags, &c., are as			20000

316C. 256C. White, No. 1. 4 C. 21/4 C. 9½c. 9½c. sc. 24½c 2½c. 1½c. Boft Woolens Mixed Rags. Jute Butts... Kentucky Bagging Book Stock...

FOREIGN TRADE MOVEMENTS.

The following is a summary of the foreign trade movements for the past week :

		IMPO	RTS	
For the	week	ended	September	16:
		x870.	788a	+91

Total. \$7,179,683 \$12,797,557 \$8,601,422 Prev. reported. 217,503.367 345.975,841 302,243,767 Since Jan. 1... \$224,683.055 \$358,773.398 \$310,855,189 Included in the imports of general merchandise for the week were articles valued

	Packages.	Value.
	- 0	A 201 (16.
Anvils	*** 289	\$2,533
Brass goods	21	3,745
Bronzes	90	7,181
Chains and anchors	96	1,111
Ciocks	50	7.484
Copper		105
Cutlery	171	50,238
Pins	76	1,265
Gas fixtures	X	125
Guns	306	86,104
Hardware	2	07
Iron, pig, tons	7.048	149.278
Iron, sheet, tons	T48	6,655
Kallroad bars	2.709	21,373
Iron cotton ties	R.600	7.577
Iron ore, tons	4.000	
Iron, other, tons	607	XX,34F
Machinery.	49	24,231
metal goods	460	3.447
Nails	400	2,4231
Needles		190
Nickel	13	6,127
Old metal.	20	3,122
Platina		202
Platedware	2	6,669
Percussion cans	· · I	120
Percussion caps	117	13,758
Paddlery	14	3,000
Spelter	1.850	6,498
Spelter	170,380	6,498
Sliverware	5	1,140
Tin, boxes	. 40,070	180,800
Tin, 1,989 slabs, 116,335 lbs		34,460

The following are the imports of leading articles, compared with previous dates :

Cutlery, pkgs Hardware pkgs	For the week.	37 Weeks of 1881. 3,027	time :
ron, R. R., bars.	9,100	285.76g	452
Lead, pigs Steel, pkgs	10,856	26,351 760,974	494
Tin slabs, lbs	40,679 116,334	1,171,904 11,365,727	20,275

EXPOSTS OF SPECIE

For the	week	ended	September 1	7:
Total Previously	report	ed	*********	\$245,130 F 7,913,304 F
Total since	Janua	AFF 1, 18	8z	\$8,158.434 68
eame ume	1/1 1880			5,451,0815
Same time	10 1879			12,451,226
Same time	in 1878			10,444, 690 P
Same time	in 1827			
Same time	in 1826		*********	22,053,357 F
Same time	in .8		**********	40,448,03078
Commercial	ma 10/3			64.803 1740 P

Sinc Jan. 1 \$224 205 48		Bank att and	Mr. in
Total \$7,627.57 Prev. reported 227,278,90	1880, 6 \$8,728,104 94 283 683,820	88,245,630	l. r.
For the week ended		20:	G'dat Clock Ir. p
Same time in 1873			Tinw
Same time in 1874		. 44.404.045	Mf. i

IMPORTS

ı	Sold and and and and and and and and and an
į	Bardware.
ŧ	Abbott Gen. H. T.
ä	Tel. cable, drums, 2
ā	Berbecker J. & Co.
ı	Cases, 6
	Barbour Bros.
	Mach'y, bxs., 4
	Boker Herman & Co.
	Chains, cs., 14
	Arms, cs., 20
	Cases, 47
	Casks, 26
	Cortes R J.
	Mach'y, cs., 22
	Mach'y, pes., 18
	Collins & Co.
	Casks, 2
	Dolge A.
拼	Ironware, cs., 10
	Downing Shaldon & Ca

Case, 1 exel, Morgan & Co. Cases, 11
Field Alfred A.
Guns, cs., 34
Pkgs., 26
Chain, &c., pkgs., 30
Folsom H. & D.
Arms, cs., 19
Godfrey Chas. J. Arms, cs., 6 nef Cutlery Co.

Cases, 2 Hartley & Graham, Guns, ca Cylinders, 21 rshali Jas. Sash chain, ck., Meyer H. A., Jr. Bundles Bundles, 240
Mauger Victor
Petrie,
Mach'y, cs., 10
McCoy & Sanders.
Cases

Cases, 4 Cutlery, ck, 1 rris G. W. Arms, cs., 2 rchants' Dis. Co. Arms, cs., 18
Mach'y, cs., 1
Casks, 3
ore's Sons J. P.
Guns, cs., 38
as F. W.
Files, &c., cks.,

W. 38

elles, &c., cks., 2

Cases, 3

tt W. P.

Arms rms, cs., 12 rerling, Daly Gales, Cases, 11 llers Wm. B. Package, 1 ymour & Co. Case, 1 sinuey J. 8. Mach'y, pce, 1 vaefalaer & Duysters, Hook nuils, cks., 35 Niebusch, Hilger & Co. Ironware, cks., 5 Chains, cks., 24 Winchester Rep. Arms

tiery, cs., 7 Arms, cs., 89 Ironware, cs., 6 Machinery, cs., 13 Cask for St. Louis, Cuttery, cs., 1

Iron bbott, Jere & Co. lexandre F. & Sons, exandre F. & Sons, Bais, 2413 iring Bros & Co. Sheet iron, bdls., 38 Sheets, 470 Pig. tons, 625 Wire, coils, 703 Iron, bdls., 3756 Iron, bars, 2757 own Bros. & Co. Burs, 28,202

Antimony, cks., 17
Tin plates, 1086
Elwell Jas. W. & Co.
Old brass, lbs., 2300
Hassell Wm. J.
Brass, bbls., 3
Copper, bbl., 1
Bodley & Co.
Yellow metal, cs., 2
Huermann W.
Zinc dust, cks., 16
Heroy & Marriner,
Tinfoli, cs., 5
Hendricks Bros. Hendricks Bros.
Lead, pigs, 415
Antimony, cks., 34
Hentz Henry & Cc.
Tin, slabs, 237
Katz Bros.
Tin slabs, 430
Lamarche & Sons,
Zinc, cks., 85
Lundberg G.
Tin, bars, 2212
Lord & Taylor,
Zinc, pkgs., 3
Meyer G. A. & E.
Zinc axide, bbls., 15
Noci A.
Tin sheets, cs., 4
Phelps, Dodge & Co.
Antimony, cks., 50
Bar tin, bbls., 25
Tin plates, bxs., 1098
Randle A. E.
Zinc, cs., 5 Hendricks Bros. rocker Bros.
Fig. tor.s. 372
rexel, Morgan & Co.
Old axies, 95
Ore, tons, 413
illiott Sons & Co.
Ore, kilos., co,coo
Ore, tons, 1300
Iron, tons, 200

Ore, kilos., 70,000
Ore, tons, 1300
Iron, tons, 300
Haspins & Montague,
Old tron, ibs., 15,700
Lee James & Co.
Pig iron, tons, 100
Marvel H. C.
Bar. x
Mason J. W. & Co.
Wire rope, coils, 5
Millikin & Smith,
Wire rods, bdla., 1567
Naglor, Benz on & Co.
Kids. coils, 450
Naylor & Co.
Wire rods, bdla., 66
Spiegel, tons, 400
Ogden & Wallace,
Sheets, 352
Sheets, 522
Sheets, bdls., 721
Perkins & Choate,
Spiegel, tons, 180 Brass, bbls., 8 Brass, bdls , 47 Brass, pcs., 3 Struller, Lau & Co. Perkins & Choate, Spiegel, tons, 150 Phelps, Dodge & Co Pig fron, tons, 454 Bes pig, tons, 510 Pierson & Co. Sheet, balls., 210 Strong S. A. Hallway iron, bars, 4613 Gun caps, cs., 58 Wessher & Smilie, Tin, ingots, 342 Order, Tin plates and ta

gers, 21,135
Tin, slabs, 2274
Tin, bars, 6170
Tin, bdis., 467
Tin, ingots, 1472
Zinc, slabs, 74
Reg. antimony, cks. 4818
Tillotson L. J.
Wire, lots, 167
Williamson J. A. & Co.
Pig, tons, 200 Tin sheets, cs., 3 Spelter, plates, 2761 Pig, tons, 1595

EXPORTS Of Hardware, Iron, Machinery, Metals,

&c., from the Port of New York, for the Week ending Sept. 20, 1881: Dutch West Indies. | Ag. imp.,pkgs 182 1, | Pilm., gals 760,760 74, | Quan. ♥al. \$138 31 199 *45 82 304 35 67 if. iron, pkgs as fix., pkgs. ltdware,case Antwerp. Naph., gals. 18e,995 18, 16 Ptlm., gals. 521,475 66, oc I. r. gds., bales 4 26 Mach'y, cs. 33,77 Hdw., cs. 56 2,34

Elsinore gals. 100,596 8,051 Stettin. lw., cs..... 10 455 lm., gals. 449. 445 37,926

London Ore, tons, 7539 Ore, kilos, 422,000 Double-headed rails tlm., gals .. 73.725 Double-neaded rails, pcs., 3407 Bar iron, bdls., 450 Swedish bars, 2332 Old rails, 5294 Old rails, tons, 235 Old rails, pcs., f414 Old fish-plates, tons, imp., pgs h'y, cs ... gcods, cs. Hull. Old boiler plts., pcs. If. iron, pkge Vire, box.... ire, box... iw., cs.... ocks, bx«. Railway bars, 2118 Sheet iron, bdis.,

Sheet iron, pkgs., ach'y, cs.... Japh.,gals. 124,500 11,20 Wire rods, bdls., Liverpool. Laverpoot.
Itdware, cs. 3
umps, bxs. 6
g. imp, pkgs 44
f. iron, pkgs 36
tim., gals. 468,651
locks, bxs. 133
dw., cs. 103
achly, cs. 128 Spiegel, tons, 2615 Spiegel, kilos., 199 A54
Bars, 4216
Scrap, tons, 248
Castings, pkgs. 9
Manganese, cks., 192
Wrought, rings, 31
Rods, pkgs., 8500
Fencing wire, rolls, 200 ma., cs., 292 Exeter.

Steel.

Abbott, Jere & Co.

Pkgs., 257
Dexel, Morran & Co
Blooms, 35,359
Steelware, cs.
Duvat, H. R.
Bands, 30
Lee James & Co.
Blooms, 1469
Meyer, Strouse & Co
Casks., 40
Moss F. W.
Bundles, 47

Moss F. W.
Bundles, 47
Bars, 26
Roger Locomotive and
Machine Works,
Bundles, 96
Third Nat. Bank,
Rafils, 61
Walseheid C. A.
Bundles, 45
Woodford W. O.
Bundles, 269
Bars, 69
Craees, 8
Order,

ms, 2341

708 Bands, 404 Old spring steel, tons, 104

tons, 104
Old rails, 3134
Old steel, tons, 53
Rails, 8773
Cases, 22

Cases, 22 Forgings, 42 Spring steel, bdls.

Metals.

onia Clock Co.

Cases, II Barnett J. Zinc, drum, I Cebattos J. M. & Co

Copper, pkgs., Dickerson, Van Du Co.

Bars, 16

Rods, 678 Steel wire rods, rolls

Orde

gals. 115,689 Plymou'h Ptim., gals. 126,150 10,0 Glasgow. Cases, 31
Baring Bros. & Co.
Rails, 2823
Rail ends, tons, 544½
Brown Wm.
Pkgs, 257
Drexel, Morgan & Co. ocks, pkgs... 10 g. imp., pkgs 28 ich'y, cs.... 5 dw., cs..... 10 ew. ma., cs.. 300 ach'y, cs.... 2 f. iron. pkgs. 9 r. goods, cs. 2 475

West Hartlepeol. Queenstown. Ptlm., gals. 157,250 13,000 Malta. Gibraltar. Ptlm., gals. 200,000 24.00 Barcelona.

imp., pkgs dware, cs.. ails, kegs... 5 21 tlm., gais. 169,037 14,496 Bilbao. Ptlm., gals. 116,600 12,30 Havre.

Ptim , gals.312,951 21.383 dach'y, ès... 26 1,294 lilverw'e, case 1 1,000 . r goods, cs.. 3 560 'rware, case.. 8 300 Hdw Nails, kegs... R. R. cars... Ptim. gals... I. r. goods, co Cette. , gals. 202,735 15.435 Corunna. Cartridges, cs. Nails, cs..... gals.233,530 24,500 keg.... 1 Venice. ew. ma. cse. Constantinople. 'tlm., gals. 180,000 23,0 Marseilles.

fails, kegs ... Genoa. locks, box ... dw., cse... r ew. ma., cs.. 49 lach'y, cs... 2 Ag. imp. pkgs Brass gds., cse Tacks, cs..... Hdw., cs..... Mf. iron, pkgs Smyrna.

tlm., gals.228,410 25,50 Oporto. tlm., gals .. 76,914 6,070 Volo. tlm., gals..99,000 11,00 Canada.

fach'y, pkgs. 4 British North Amer Venezuela. Venezuela.

Hdw., pkgs... 95
Cutlery, pkgs... 7
Mach'r, pkgs... 60
Nails, kegs... 90
Shoe uails, bxs... 1
Pltdware... cs... 2
Ptlm... gals... 6245
Sew. ma... cs... 91
Pumps, pkgs... 6
Mf. iron., pkgs... 55
Ag. imp., pkgs... 97
Revolvers. cse... 1
Tel. wire, coils... 270 tean Colonies. Sew. ma., cs. 7 Mf. iron, pkgs 140 Clocks, bxs. 4 Pig iron, tons. 26 Hdw., cs. 92 Mach'y, pkgs. 261 Ptlm., gals. 10,500 British East Indies. tlm., gals.430,000 50,000 British West Indies.

Ptim, gals,...6910 1,026 Hdw., cs.....51 883 Mf. iron, pkgs 15 240 Pitdware, cs... 17 1,303 Mach's, pkgs 5 886 Clocks, bxs... 9 235 Brasil. Hdw., pkgs... 150 Ptlm., gais 254,738 Cutlery, cs... 96 Pumps, pkgs. 2 Cartridges, cs. 3 Cartridges, cs. 3
Mf. iron, pkge 212
Mach'y, pkges 212
Mach'y, pkges 4
Pistols, cse ... 1
Ag. imp., pkge 8
Sew. ma., cs. 21
Shoe nails, cs. 32
Clocks, bxs. ... 1
I. r. gds., cs. 2 British Guiana. tdware., cs. 2 300 ir wheels, pr 6 123 iw., cse.... 1 53 lm., gals...10,000 1,137 dw., cse.... 1 tlm., gais.. 10,000 British Australia. Hdw., cs..... 274 5,450 Ptim., gais...19,200 2,496 Nails, kegs... 3D 110 Clocks, bxs... 26 680 Pitdware., cs. 2 260 Argentine Republic.

Ptlm., gals. 36 00 6.532 Ag. imp. pkgs 331 8.519 Rifles. csc ... 1 197 Cartridges, cs. 2 78 Tinware, cs. 3 154 Firearms, cs. 4 430 British Honduras. Thiware, es... 3 Firearms, es... 3 Hdw., plags... 548 Pltdware, pgg 10 Mf iron, pkgs 33 Car wheels... 200 Mach'y, pkgs... 15 Clocks, bxs.... 29 Cuttery, cse... 1 ire arms, cs. 19 1,370 inware, cs... 2 17 opper still... 1 363 2,884 Sandwich Islands.

Nalis, Regs... 174 517
Shoe nails, pg. 46
Ptim. gals... 1800
Cutlery, ose... 178
Nalis, hhd... 1 50
Rew. ms.. cs. 87 318
Ag. imp., pgs. 119 2,307
Mf. from, pgs. 38 190
Ag. imp., pgs. 119 2,307
Mf. itoh, pigs. 38 190

PHILADELPHIA.

Ouba.

Mach'y, pkgs. 990 Hdw., pkgs. 27 Clocks, pkgs. 27 Nails, kegs. 174 Shoe nails, pg. 4 Pum., gals. 1000 Cuttery, ose 1

Office of The Iron Age, 220 South Fourth St., }
PHILADELPHIA, Sept. 20, 1881.

change. First and most important of all, perhaps, is the fact that the heaviest consumers bought during August and the early part of September all they are likely to re Pumps, pgs... Pumps, pkgs. quire until the end of the year. Second, the Messina. preparations for an increased production and offers to sell for forward delivery have

averted all fears of scarcity, so that the de-mand has fallen back to one of meeting actual requirements. Beyond this there is

very little inquiry, so that the market, com-pared with what it was two or three weeks ago, appears quite languid. With the large

consumption still in progress, it is perhap-ust as well that there should be a paus before making any further advance. Prices

direct competition with it. A slight reaction at the present time may, therefore, be o

altimate benefit to the entire trade, as i

will check speculation and give to both producer and consumer ample opportunity to

study the position, and to provide accord-ingly. Lower prices are not anticipated, out at the now established rates it is likely

out its resulting in business, so far as w

Muck Bars .- The demand is very active,

d all sales reported have been on the basis

Blooms-Continue scarce and in demand

nts both extremes.

can learn

are now quoted.

Ptlm., gais. 141,550 15,86 Canary Islands. 13,433 French West Indies Sew. ma., cs Revolvers, cs. Ptlm., gais...13, Mf. iron, pkgs Ag. upp. pkgs. Cartridges, cs. 12

Porto Rico. Petlm., gals.23,200 Cutlery, cse... 1 Hdw., cs.... 3 Sew. ma., cs.. 8 Hayti.

Nails, kags.... Br. goods, cse His, k 355. Br. goods, cse 1 Hdw., cs..... 7 Ptlm., gals. 16,650 Mf. iron, pkge 1 Car bell rgts,bx 1 Trieste. Ptlm., gals. 331,146 26,5 Alexandria. Ptlm., gals. 159,000 19.5

Dutch East Indies. Ptlm., gals. 736,000 86,2 United States of Co. tombia.

Sew. ma., cs.. Cartridges, cs., Ptlm, gals... 3 Mf. iron, pkgs; Cutlery, cs... Tinware, cs... Mach y, pkgs. I. r. goods, cs. Platedware, cs. Arms, cs..... Ag. imp., pkgs V. metal, bxs. Copper, heets Hdw., cs... Nails, kegs... Clocks, bxs... Stills, cs

Fire engine... Brass gds., cse Nails, bxs.... Iron, pkgs.... Car spgs.,bxs. China. Hdw., cs..... 10 Mf. iron, pkgs 4 Cartridges, cs. 15

and all sales reported have been on the cases of \$42 at mill. Some holders ask an ad-vance, but so far without finding buyers. Africa. Ptlm., gals., 102,790 Mexico. t the following rates, viz. : Charcoal Blooms pkgs...1662 15 \$72.50; Run-out Anthracite, \$60 @ \$62.50; \$52.50 for Scrap Blooms, and \$47.50 for Northern Ore Blooms.

.. 150 ... 555 ... 10 Lead pipe,pgs Clocks, bxs.... Pumps, pkgs. Firearms, cs. Grindstone

Truguay. Shoe nalls,pgs 12 Ag. imp., pkgs 241 Hdw., cs..... 222 Naph., gals... Ptlm., gals...55, Pltdware., cs. Clocks, cs.... 475

Central America, Hdw., cs..... 13

for, so that it is not likely that there is much going to loss for want of material, although manufacturers are undoubtedly pushed to their utmost to meet calls upon them. Prices are steady at 2.9¢ for Angles, 3.4¢ for Beams, 3.5¢ for Channels, and 3.6¢ @ 4.7¢ for Tees. 3.7¢ for Tees Plate and Tank Iron.—We cannot report much relief in this department, as complaints of scarcity exist along the entire time, and new orders are most difficult to place. The demand appears to be far beyond the supply, and while this continues yound the supply, and while this continues will necessarily be irregular and untertain. Tank Iron may be quoted 3.25¢ (Refined, 3.75¢; Shell, 4¢; Flange, 5¢ (8.50¢; and Fire box, 6¢ (8.50¢). Plate and Tank Iron.-We cannot reprices will necessarily be irregular and un-certain. Tank Iron may be quoted 3.25¢ @ 3.50¢; Refined, 3.75¢; Shell, 4¢; Flange, 5¢ @ 5.50¢; and Fire box, 6¢ @ 6.50¢. Sheet Iron.-The demand is large, and mills crowded to overflowing, with very little prospect of satisfying the entire demand. Prices may be quoted about as

follows: Common Sheet, No. 26 to 28.

Common Sheet, No. 22 to 25.

Common Sheet, No. 16 to 21.

Best Refined \(\frac{1}{2} \text{ M} \) \(\frac{1}{2} \text{ M} \) advances the stelloom Sheets. No. 26 to 28.

Best Bloom Sheets, No. 16 to 21.

Common Sheets, No. 16 to 21.

Common Sheets, No. 16 to 16.

Blue Annealed, 3-16 to 16.

Bot Bloom Galvanized, discounts and second quality, discounts.

Wrought Iron Pipe.—The demand is very active, and prices firm. Discounts from list price are 40 % on Boiler Tubes, and 60 % on Gas and Steam Pipe. Steel Rails.-There is no

change, although it is noticeable that most of the leading roads get their orders ac-cepted at pretty nearly the old rates. One of the Western roads placed an order re-cently for about 20,000 tons at one of the Thumps, piggs. 5 304

Again, gals. 24,475 66,000

Again, gals. 24,475 66,000

Again, gals. 24,475 66,000

Again, gals. 24,475 66,000

Again, gals. 25,345

Again, gals. 25,455

A

shipment to Portland, for use on their Maine branch; price not made public, but believed to be about \$32 in bond. The Pennsylvania Steel Company made their first "blow" on their new converters last week, and in course of 30 days expect to have their entire new plant in successful operation.

Steel Blooms.—Negotiations are in pro-ress for large lots, and there are indications of quite a heavy business being done shortly.
In some cases \$44, duty paid, is bid; but sellers still hold out for deliveries to be made at sterling prices, say £6. 5/, c. i. f.

Iron Rails.—The market is a little quiet, although there are inquiries for a few good-sized lots, which will probably result in busi-ness at an early date. There are offers of \$47, but orders cannot be placed unless the are already high enough to turn the atten-tion of buyers to foreign iron, and a few steps further would doubtless bring us into 347, but orders cannot be placed unless the buyer agrees to furnish a certain proportion of Old Rails at a fixed price. This retards business for the present, although a good many small lots are taken, chiefly at about \$4.8 for heavy sections. At present the mills are full of work, but there is a disposition to negotiate for new business when satisfactory terms can be obtained. English Rails are quiet, although we hear of several thousand tons having been taken at about \$5.0. but at the now established rates it is likely that consumers will be able to cover all their requirements, probably until the close of the year. Current quotations are about as follows: No. I Foundry Iron, \$25 @ \$26; No. 2 Foundry, \$22 @ \$23; Gray Forge, \$21 @ \$22.50. Prices of each grade sometimes show a difference of one to two dollars per ton, according to character of the brand offered, but the above fairly represents both extremes. ons having been taken at about £5. 9/, c. b. at Welsh port, equal to about \$44.50, lelivered United States, duty paid.

Railway Supplies.—The demand is active, and all descriptions are firm, as follows: Spikes, 2.85¢; Fish Plates, 2.4¢ @ 2.5¢, and Bolts and Nuts, 3.25¢ @ 3.75¢.

Old Rails-Are very dull, and, although Old Ralls—Are very dull, and, although there has not been sufficient business done to fix prices definitely, there is a general feeling that the market is weaker. There is no disposition whatever to buy at rates now asked, and if holders give way it is hardly likely to help matters at present. Cable quotations are also a shade easier, and offers to feel of the case of the same and offers are also a shade of the same and offers are also a shade of the same and offers are also as hade of the same and offers are also as hade of the same and offers are also as hade of the same and offers are also as hade of the same and offers are also as hade of the same and offers are also as hade of the same also as hade of the s Foreign Iron.-Although there is nothroreign 170n.—Although there is nothing from abroad calculated to weaken the market, holders show more desire to realize, and No. 3 Middlesborough is offered at \$10 without finding buyers. Purchases of a few lots would probably strengthen the market again, but it is difficult to obtain bids. Scotch Iron is nominal at \$23 @ \$24.50, and only small lots are taken. Bessemer Pig is quiet, and no sales have been of 80/, c. i. f., are asked for. Store lots are held at about \$27.50 for Tees, with one sale of 1000 tons, said to have been at a price emer Pig is quiet, and no sales have been reported for some days. Consumers are airly covered for the balance of the year, nearer \$27 than \$27.50. Double Heads are inquired for at about \$29.50 @ \$30 for small

Crop Ends .- Offered at \$27.50, but there nand at over \$26.50.

and at the rates asked for 1882, prices are considered too high. Prompt cash offers for large lots would probably be accepted at slightly lower rates, but \$25 @ \$25.50 is asked, according to date of shipment, with Old Car Wheels—Are held at \$28 @ \$30, but there is very little inquiry at pres-

Scrap Iron,-The market is a little quiet, and \$28 @ \$30, according to quality, may be considered a fair quotation for

Nails.— Prices have been advanced to 3.40, less the usual discount to the trade. The demand is quite active and a very satis-factory business is reported from all quar-

PITTSBURGH

Office of The Iron Age, 77 Fourth Avenue, PITTSBURGH, PA., Sept. 20, 1881.

Bar Iron.—There is but little change to notice in this department, as the demand is still heavy, supplies small and prices firm. A few orders have been entered by manufacturers at 2.5\style{s}, and several country mills appear to be selling a little abburch in Pig Iron.—Business has been unusually uiet the past week, but for this there are affacturers at 2.5¢, and several country mills quiet the past week, but for this there are would still be difficult to place large orders. Well to note. Consumers generally, until the indications, however, are all in favor of within the past few weeks, have been buying freely, and, owing to the extremely hot works it is believed that there will be ample weather, the consumption has been compartes undoubtedly every prospect of continued according to the contrary, producers are all ittle until the safety among consumers. It is likely that but little offering. There is no evidence of large buyers are holding off a little until the safety that there is no reason to expect anything but a dot they feel able to maintain present prices, satisfactory demand through the entire year; but, if so disposed, to establish an advance. Prices are a little more settled and less the fact that the mills are sold so far ahead when orders can be taken at all, they will be of furnacemen, and now that the hot season at rates not materially different from what as passed they look for a largely increased consumption, and of this there seems no are now quoted.

Structural Iron.—The demand is large, consumption, and of this there seems no doubt. We repeat former quotations: Mill but there has been less difficulty in getting, orders accepted than was the case two or for best brands of Neutral; ditto from Lake three weeks ago. Early deliveries are allowed, inclined to Red-short, \$23.50 @ \$24; most out of the question, but most of the Foundry grades, \$23 @ \$23.50 for No. 2, urgent requirements are already provided and \$24 @ \$25 for No. 1. Very little doing for, so that it is not likely that there is much

Bessemer Iron .- There appears to be Bessemer 1708.—There appears to be considerable inquiry, but very few sales reported for some weeks past. We continue to quote at \$27 @ \$27.50, 4 mos. Best brands of English are being offered from the seaboard at equal to \$28, cash, delivered in Pittsburgh. Some of this English recent-

the production was light, the puddlers being unable to work more than half time, and the supply was very much reduced in conse-quence. It is probable that contracts for October and Nevember delivery could be nade at \$1 less than our quotations. Manufactured Iron. - There are but

Manufactured Iron. — There are but few new sales being made, not in conse-quence of any falling off in the demand, but because the mills have so many orders booked and are so pressed that, as a rule, they are unable to make any additional con-tracts, unless for delivery about the close of the year; and it is worthy of mention that the inquiry is chiefly for early deliver. This the inquiry is chiefly for early delivery. This being the case, prices are very stiff, and while the mills cannot, in good faith to their skilled labor, exact anything above card rates, they would have no trouble in obtaining one to two tenths above the card if they could take orders for immediate delivery. It is very evident, now, that there will be no attempt made to advance there will be no attempt made to advance the card for the present, as manufacturers realize, by so doing, they might stimulate foreign competition, in addition to increas-ing the cost of their skilled labor. Bars are firm at full card rates, 2.50¢, 60 days, 2 ¢ off for cash; Sheet, 4.20¢ @ 4.50¢ for No. 24: Tank, 2.40@ 3.50¢. Grooved Skalp

the secretary to obtain a report of stock in first hands and have it ready by the time of the next regular monthly meeting. We con-tinue to quote at \$3, 60 days, 2% off for

Wrought Iron Pipe.-There is nothing new to report. The activity noted for some time past continues. Manufacturers are uncomfortably busy, being sold ahead, and are obliged to refuse orders for a near-by delivery. Never before, perhaps, has there been such a demand as at present. Discounts on Gas and Steam Pipe remain unchanged at 57½ @ 60%; on Boiler Tubes, 40%; Oil-well Casing unchanged at 82½ per foot. net Casing unchanged at 82½¢ per foot, net do. Tubing, 24¢, het.

Rails, &c .- Sales of Steel Rails have bee made here for delivery this and next month at \$62, cash, at mill. Railway fastenings remain about as last quoted; Spikes 3 cents, 30 days; Splice Bars, 2.45¢ @ 2.55¢; Track Bolts, 3.40¢ @ 3.60¢.

Steel .- The Steel mills are now busy, most of them are working up to their ful capacity, and the indications are that this will continue to be the case during the rewill continue to be the case during the remainder of the year. Prices remain unchanged, as follows: Best brands of Refined Cast Steel, 11¢; do. Crucible Machinery, 7¢; Bessemer and Open-hearth do., 5¢ @ 5½¢; do. Spring do., 4¢ @ 4½¢; do. Plow, 4¼¢ @ 4½¢; Steel Boiler Plate, 6½¢ @

Scrap.—Wrought Scrap is still quoted at \$28 @ \$29 per net ton for Ordinary and \$30 @ \$31 for Selected Railroad. Old Car Wheels are dull and nominal; last sale re-Wheels are dull and nominal; last sale reported was at \$30 per gross ton; Crop ends may be quoted at \$20 @ \$30 per gross ton. We can report a sale of 500 tons at the outside figure - \$20, cash. Cast Borings are in large supply and very dull; we continue to quote, nominally, at \$15 @ \$16 per gross ton. Wrought Turnings are also neglected and weak; quoted, nominally, at \$20 per net ton.

Window Glass .- At a meeting of the Window Glass.—At a meeting of the local window-glass association last week, the price on single strength was advanced 5 %; no change in double. We now quote discounts at 60 and 10 and 5 % on the former, and 70 % on the latter, 60 days, 2 % off for cash for carload lots and upward. It is believed that the importers will follow suit, as it is known that they have been waiting for the American manufacturer to take the lead. The prospect continues very favorlead. The prospect continues very favor-able for an active fall trade, and that manufacturers are confident is evident from the fact that they have put up prices.

Coke.—The production has been reduced considerably of late for want of water, and makers generally have about all they can do in meeting the demands made upon them. The consumption is large and increasing and, as stated in our last, operators who do not own their own cars, have great trouble in getting transportation. Prices trouble in getting transportation. Price firmer, but unchanged; \$1.60 per ton in regular way, delivered free on cars at ovens and \$1.70 @ \$1.75 for small foundry orders

Coal.—The demand of the railroad minerals been acceded to, and they are now be ing paid 4¢ per bushel for mining. The retail dealers have taken advantage of the situation and advanced the price 2¢ per bushel to consumers. River operators are doing nothing, nor can they until navigation is resumed, of which there is but little prospect at present.

CHICAGO.

Office of The Iron Age, 36 and 38 Clark Street, cor. Lake Street, CHICAGO, Sept. 19, 1881.

Pig Iron.—We have no change to report regarding the Pig Iron market, which is active; prices are firm and inquiries continue to be numerous. We quote: Crane X, \$28 XX, \$26; Thomas, \$25.50 @ \$28.50; Scotch Imported, \$27 @ \$29; American Scotch, \$25 @ \$28; Silvery Soft, \$23 @ \$25; Lake Superior Charcoal, Nos. I and 2, \$33; No. 3, \$32; Nos. 4, 5 and 6, \$34 @ \$35.

Manufactured Iron.—There has been no change worthy of mention since our last writing; the demand is very good and writing; the definant is very good and prices firm at the following quotations: Bar, 2.80¢ in store and 2.70¢ at mill; Angle, 3.50¢; T, 3.70¢; Hoop at 3.30¢ rates; Sheet, Plate and Tank, 10 to 14 gauge, at 3.80¢ @ 4¢. The supply of this class of Iron here is moderate. here is moderate.

Nails.-The market for Nails during the past week has been active, without any change in prices. We quote, nominally, for 10d. to 6od., in less than carload lots, \$3.15 per keg, with the usual discount off for cash, but good brands are in the market from \$2.75 up.

Steel.-We quote : Tool, 111/2 ; Machinery, Steel.—We quote: Tool, 11/2¢; macmnery, O. H., 5/2¢; Crucible Machinery, 7¢; Hammer, 2 inches and under, 8¢; over 2 inches, 9¢; Cast Spring, 6/2¢; and O. H. Spring, Tire and Sleigh Shoe, 5¢. The quotations on this latter class of Steel would be shaded a trifle on large lots. Sheet, first, second and third quality 12¢ 10/4¢ and 8/4¢ respectively. a trine on large lots. Sneet, first, second and third quality, 12¢, 10½¢ and 8½¢, respectively; Crucible Plow, 6¢@6½¢; Eagle Plow, 5½¢; Iron Center Plow, 10½¢; and soft Steel Center Plow. 10½¢.

Scrap Iron.—A trifle better feeling pre-

vails in this market, the demand having somewhat improved during the week. We quote as follows: No. 1 Forge Scrap, \$30; No. I Wrought, \$24; Heavy Cast, \$20, and Stove Plate, \$13.

CHATTANOOGA.

Office of The Iron Age. Market and 8th Sts., | CHATTANOOGA, Sept. 19, 1881.

Business shows no signs of letting down from the marked activity that has prevailed since the latter part of August. The weather has shown much improvement, the nights being very cool and bracing and the days warm and pleasant. On the 15th we had a 24 hours' steady rain, raising the streams and saturating the earth for the first time such a thing had happened since June or early in July. Reports from the cotton belt are more encouraging than for some time past. At least half the crop is have been placed in market, paying old debts, scattering some cash and forming a basis of fresh credit. Merchants from the South are buying liberal stocks, and the building trades in the Black Belt and along and jobbers ask 21¼¢ @ 22¢. Large lots Business shows no signs of letting down from the marked activity that has prevailed

the Gulf are very active. The week end

Pig Iron.-There is nothing new the trade. Prices are steady. Outside figures are generally obtained. We quote No. 1 Foundry, \$22 @ \$23; No. 2 Foundry, \$20 @ \$21; Gray Forge, \$18 @ \$19; White and Mottled, \$16 @ \$18; Car-wheel Metal. \$38 @ \$40.

Ores.—We quote: 50 % Brown Hems lite, per ton, \$2 @ \$2.75; Red Fossil, \$2 @

Miscellaneous Articles. -Old Rails ar fairly strong at \$26 @ \$28; Wrought Scrap, \$20 @ \$25; Cast Scrap, \$10 @ \$15; Old Wheels, \$28 @ \$30.

Nails.—Prices are strong. The mill at this point will be turning out 3000 kegs per week by the first of October, and is far be-nind orders. We quote them at \$3 @ \$3.10. Manufactured Iron.—Bar maintains stiff market at \$2.50, and orders not sought at that figure for future delivery. We quote: Spikes, \$3.15; Track Bolts, \$4. Trestle Bolts, \$4.50; Fish Plate, \$2.75.

Coal.—Another advance in Lump is probable. Householders will probably be charged \$5 per net ton by the time winter opens. Most of the scarcity is chargeable to want est of the scarcity is chargeable to war cars. Run of mine continues at \$2, of cars. at mills.

Coke.-We quote Furnace Coke at \$3 pe furnace; Foundry, 10¢ @ 12¢ per

Steel and Iron Rails.—Steel Bars, \$62 \$64 at mill; Iron, \$50 @ \$52; Small, \$57

BOSTON.

nomewhat, and only do enough business to supply their actual needs. The consumption of Iron has not fallen off in amount, and the furnaces continue to produce and deliver steadily, but is mainly in execution of former orders. Some of the furnacemen refuse to take new orders for anything but forward delivery, declaring that they have orders delivery, declaring that they have orders ahead for one or two months. Buyers seek to think that there will be an easier market, and are buying only on the hand-to mouth principle. But the producers are holding firmly and seem to have the best of the situation, as the danger of foreign importation is not so great as it was, prices abroad having stiffened considerably and made large advances. The market on the whole this vances. The market, on the whole, this lough the consumption is as large as ever though the consumption is as large as ever. American Fig.—The quotations remain prac-tically the same; prices at shipping ports are: \$24.50 @ \$25.50 for No. 1 X; \$22 @ \$23 for No. 2 X, and \$20.50 @ \$21.50 for Gray Forge. Small spot lots command \$2 @ \$3 per ton above these quotations. Foreign Fig.—There is an improved tone, and prices are considerably higher the advence orices are considerably higher, the advance being from 4/ @ 6/. We quote: Eglinton at \$22 @ \$22.50; Langloan, \$24.50 @ \$25.50; \$22 (@ \$22.50; Langloan, \$24.50 (@ \$25.50)
Gartsherrie, \$23.50 (@ \$24; Glengarnock,
\$23.20; \$23.50; Carabroe, \$21 (@ \$22.50. Olo
Rails.—The market is easier, and business
is a little better. We quote American at
\$30 and Foreign at \$28. Manufactured hon.— The demand for Manufactured Iron is re-ported fully up to that of last week, and the mills are in the same condition as last noted. Orders have been coming in though there are more than enough already to keep the nills busy for two months yet. The milis are in a very strong position, and seem deermined to hold prices well up. Foreign mportation does seem as probable as it was week, as an advance has been made proad. English Iron could not be laid own here at less than we are asking. The mills are interested at keeping the market at just about importation prices, and dealers do not want to buy Foreign Iron if they cau get American as cheap. The stocks of all kinds are low, and it is impossible to get the mills to fill up as fast as wanted. Some dealers are obliged to decline orders because of the lack of sufficient stock. The market is stronger for Bar, and we place our lowest quotation at \$2.60. There is a considerably firmer feeling than last week, and prices are considerably stronger. The market is grad-ually and slowly stiffening in response to a legitimate consumptive demand, whereas during the last boom the stocks were heavy and transactions were on paper, now the stocks are light and transactions are for actual consumption. Indeed, there seems to be an entire absence of speculative feeling. Bar Iron.—We quote Refined at \$2.60 for large lots, and in some fancies sales were for large lots, and in some fancies sales were made at \$2.75; Horse Shoes, \$4.25 @ \$4.33; Swedish and Norway at \$3.75 @ \$4 for Bars, and \$4.75 @ \$5 for Shapes. Plate Iron.—The market has been active and prices are firm. We quote Tank at \$3.35; Refined at \$3.45; Shell at \$4.10; Flange at \$5.10, and Tubes unchanged at 40 \$ discount from list. Sheet Fron.—The demand has been very good. We quote: Sheet Iron. 46 very good. We quote: Sheet Iron, 4¢ @ 4½¢; ditto Refined 5¢ @ 5½¢; Galvanized, 8¢ @ to¢; Russia, 11¢ @ 12¢. Steet.—The market is firm and trade has been quite active. We quote Best Engbeen quite active. We quote Best English Cast, 14¢ @ 15¢; American ditto, 12¢ ush Cast, 14; @ 15; American ditto, 12¢ @ 12½¢; Bessemer Machinery, 5¢ @ 6¢; Wedge and German, 7¢; English Spring and Calking, 7¼¢ @ 7½¢; American ditto, 5½¢ @ 6¢; Tire, 4¢ @ 4¼¢; Sleigh Shoe, 3½¢. Nails.—The advance has been well maintained and the demand is good. We quote \$3.40 @ \$3.50 for rod. per cask. *Copper.*— There has been a continued advance in Cop er, and sales of several hundred thousand ounds have been made in New York at 18¢

sell at 211/4; English, 22¢. Tin Plates. sell at 21/4¢; English, 22¢. 21th Puttes.— Tin Plates are dull and neglected. We quote Charcoal Bright at \$6.25 @ \$6.50; Ternes at \$5.75 @ \$7.25; Cokes, \$5.35 @ \$5.55 ditto Ternes, \$5.25 @ \$5.50.—Commercia Bulletin.

CINCINNATI.

SEPTEMBER 19.—Pig Iron.—During the ast week there has been considerable ac ivity in the market, notably for small lot or foundry use, and at prices fully sustain ng last week's quotations, and in some case n advance of from 50¢ to \$1 †? ton on tonecoal and Coke kinds. Throughout his and the southern districts the demand consumption is about equal to the pro-ction. The gap between the prices of mecoal and Coke Iron and Charcoal of the former and the late advance in the prices. The price of all kinds of Charcoa from is firm, with considerable late inquiry Hanging Rock Charcoal Foundry, \$26.50 \$27.50; No. 1 Coke, \$25; No. 2, \$22.75 No. 1 Stonecoal, \$23.50; No. 2, \$22.50 Silver Gray No. 1, \$22.50 @ \$23; No. 2 \$21.50 @ \$22; No. 3, \$20 @ \$20.50; Cold blast Charcoal, Car Wheel, \$35 @ \$38 Warm-blast, \$28.30.

LOUISVILLE.

Messrs. Geo. H. Hull & Co., Commission Merchants, report to us as follows, under date of Sept. 16, 1881: There is no change to report in the condition of the Iron market during the last few days. There are some fair sales being made for immediate consumption, and the tone of the

BOSTON.	market seems healthy. We quote for cash:
SEPTEMBER 17.—The Iron market has been	FOUNDRY IRONS.
quiet on the surface, though very firm. Buyers seem to have been holding back somewhat, and only do enough business to supply their actual needs. The consumption	No. 1 Hanging Rock, Charcoal\$26.00 @ 28.00 No. 2 25.00 @ 27.00
somewhat, and only do enough business to	No. 1 Southern, Charcoal 24.00 @ 25.00
of fron has not fallen ou in amount, and the	Coke 23.00 @ 24.co
steadily, but is mainly in execution of former orders. Some of the furnacemen refuse to	Coke 22.50 @ 23.cc
orders. Some of the furnacemen refuse to	No. 2 Southern, Stonecoal and Coke. 23.00 @ 24.00
take new orders for anything but forward	"American Scotch"
delivery, declaring that they have orders	Scotch 20.00 @ 21.00
to think that there will be an easier market, and are buying only on the hand-to mouth	No. z Charcoal, Cold-short and Neu-
principle. But the producers are holding	No. 1 Stonecoal and Coke, Cold-short
firmly and seem to have the best of the situ-	No. 2 Stonecoal and Coke, Cold-short
	and Neutral
	White and Mottled, Cold-short and
advances. The market, on the whole, this	Neutrai 17.00 @ 18.00
week is rather tame and uninteresting,	CAR WHEEL AND MALLEABLE IRONS.
though the consumption is as large as ever.	Hanging Rock, Cold-blast 35.00 @ 41.00 Alabama and Georgia, Cold-blast 35.00 @ 40.00
	Kentucky Cold-blast 35.00 @ 40.00

W. B. BELKNAP & Co., Iron and Stee Merchants, Nos. 113 and 115 Main street report to us as follows, under date of Sept. 17: Bars are still in great request. Some the mills hereabouts say they have soleir product up to January 1. Full price their product up to U January I. Full prices are obtainable, as jobbers' stocks are much depleted, even badly broken. We hear of English Sheet having arrived in quantity at the Eastern ports. It is well it is so, for cool weather has now set in, and the supply in wholly independent to the pressing dynamics. s wholly inadequate to the pressing demands of the season. Nails are arriving by rail, but not in sufficient quantity to supply the call. There is an especial heavy demand for machinists' and builders' tools. There is again complaint of lack of rolling stock on the roads operating here. One day last week the Louisville and Nashville Railroad were short 100 cars. They have contracted out for 2000, to be delivered this year.

ST. LOUIS.

Messrs. Hoffer, Plumb & Co., Pig Iron and Iron Ore Merchants, 417 Pine street write us, under date of September 17 There is no change to note in this market

For cash we quote:			
HOT BLAST CHARCOAL.			
MissouriSouthern. Ohio	26,00	0	27.50 26.50 30.00
COKE AND COAL.			
Missouri Southern Ohio		0	25.00
MILL IRONS.			
Cold-short	21.50		32.00 35.00
CAR WHERL AND MALLEABLE I	RONS.		
MissouriSouthernOhio		0	30.00 38.00 42.00

BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, reports us the following, under date of September 19: We quote the market very active, with de-mand in excess of ability to supply as promptly as desirable. Stocks, in conse quence, are much broken and reduced or eading sizes. Ref. Bar Iron, 1 to 6 x 1/2 to 1......
" 1 to 4/2 x 1/2 to 2.....
15 " 1/2 to 2, Round

" '4 to s, Round and Square...' '4 to s, Round and Square...' wide and upward... Band Iron, from 1% to 4 in. wide... Horse-shoe Iron. Norway Nail Rods... Black Diamond Cast Steel... Machinery Steel... 2016 Special Sommon Horse Nails Perkins! Horse shoes Wkeg of 100 " Mule shoes... Wkg of 100 " Mule shoes... . 19 10 234 @ 2344 . 1 335 @ 334 1 . 1 3 @ 344 1 . 1 34 @ 44 5 . 1 35 @ 456 1 . 1 35 @ 456 1 . 1 3 @ 346 1 . 1 3 @ 3 & 6 . 1 0 @ 3 & 6 . 1 0 @ 3 & 6 . 1 0 @ 3 & 6 . 1 0 @ 3 & 6 . 1 0 @ 3 & 6 . 1 0 @ 3 & 6 . 1 0 @ 3 & 6 . 1 0 @ 3 & 6 . 2 0 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 3 0 @ 3 & 6 . 4 0 @ 3 & 6 . 5 0 @ 3 & 6 .

sion Merchants, report the Pig Iron mar-ket as follows, under date of September 19: The Iron market remains quiet, with fair

R. C. HOFFMAN & Co., Iron and Commis-

. r Anthracite Pig	g Iron	24.00 (1)	26,00
. 2		22.00 @	24.00
. 3		21 00 @	22.50
. 1 Virginia Coke	Pig Iron	23.00 @	24,00
. 2 "	4.5	22.00 (8	23.00
. 3	46	20 00 @	22 CO
ginia Charcoal C	В	34.00 (0	
Rails		27.00 00	29 00
ought Scrap, No.	. 1	22.50 (0)	24.00
st Machinery Ser	ap	20,00 (1)	21.00
fined Bar Iron		33	26-10
rse Shoes (Trede)	ZRT)	0	4.00
le "		0	5,00
			- 8
-	-		- 10

Our English Letter.

Review of the British Iron, Steel. Metal and Hardware Trades.

(From our Regular Correspondent.) LONDON, ENG., Sept. 6, 1881. THE SITUATION

ere, in a business sense, cannot be said to be very strong, although, at the same time, it would be incorrect and unjust to term it weak. The fact is there is some difficulty in scertaining how things are moving and in getting at the bottom facts just at this time of the year, when pretty nearly every firm has one or more of its members, or it managing man, away at the seaside or else where holidaying. August is an especially weak month in this respect. Things are kept moving, and this about all. Little or new business is done, and certainly n enterprise of pith and moment" is enered upon. The net result is a sort o ered upon. The net result is a sort of iving stagnation, which is not lifted and elieved before about the middle of Septem er, by which time the vacation fever ha per, by which time the vacation fover has generally abated, and money-getting instead of money-spending is again the order of the day. This year the holiday month has been a good deal broken by bad weather at home, but in many parts of the Continent of Europe the "rain" has not been troublesome, that large and constantly growing section of the community which seeks "rest and repose" in the hurry and scamper of a few eeks in France, Switzerland, or Italy has not been interfered with. Coupled with the paralyzing effects of the holidays has been the partial destruction of the harvest in this the partial destruction of the harvest in this country. The damage done to the cereal erops may not be, and probably is not, so serious as has been represented, but the reports which have been circulated by the newspapers have had much influence in mping the spirits of those who had built their hopes upon a good harvest, and in ecking the flow of orders for manufactured goods which began early in July. Personally, I incline to the belief that the crops will not be more than about 20 per cent short of an average over a large area of the ountry-or about 10 per cent. worse than vas anticipated a month ago, but there are persistent rumors and statements affoat to he effect that the depreciation will be s considerable as to make the outcome 50 per ent. worse than last year—or about the corst harvest on record. This view would em to have met with a somewhat wide rread acceptance, seeing that we have been wored with several rises in wheat our and bread, with the pleasant prospect

favored from and bread, with the pleasant prospect
of "more to follow." For these reasons,
and owing to other causes chiefly arising
therefrom, business is quiet in all directions
and seems likely to remain so. All the
chief manufacturing industries of the country naturally feel the influences of their sur-roundings, and especially so with the iron trade, which is mainly dependant for the bulk of its prosperity upon the prevalence of that state of public feeling which is prorocative of a spirit of enterprise and pro-ress. So long as uncertainty exists and he prosperity of the farming districts rest on a feeble and tottering basis, so long when iron trade continue in its condition. is only the excessive cheapness of the fin-ished product that gives us the large demand which undoubtedly exists, but the causes which conduce to that same cheapness are the precise reasons why prices do not improve and the market regain that ful pulsation which is necessary to its health, activity. In detail iron is just as as it ha en any time these four or five months Of crude irons the production is enormously in excess of the consumptive and shipping requirements of the market. Stocks are ncreasing in almost all directions, especiall to in Scotland, which still has a good deal fluence, undeserved, perhaps, but stil over the quotation ricts, and even over many of the foreig narkets. I have so often stated my view on the subject of this vast over-production hat I need not repeat them here, althoug that I need not repeat them here, atthough the importance of the matter to your market as well as to our own, would almost justify continuous "kicking at the prices." In connection with this point it may be men oned that there are now more furnaces a tioned that there are now more furnaces a work than was the case three months ago hence the make of pig iron is still on a scale wholly unprecedented at any former period of our history. As regards finished irot there is not much to record of interest Most of the works are in the enjoyment of fair amount of employment, especially or common bars, sheets, hoops, tube strips, and plates, but the resultant profits are confess edly meager and unsatisfactory, excepting perhaps, in respect of galvanized iron and sheets, on which about 10/ to 12/6 a tor rise has been secured since the quarterly cetings in July. Steel rails, iron rails coms and old materials are also better, bu the causes which have conduced to their improved value have been so regularly and fully explained as to make detailed ment in this place quite unnecessary

SCOTCH PIG IBON as experienced a still further declension in values during the week, and the volume of shipping business at the time being does not shipping business at the time being does not compare at all favorably with the corresponding week last year. The local trades of Glasgow and district are moderately engaged, but in some of them there is less work on hand than was the case a few months ago. The founders and shipyards have most in hand, although the marine engine builders are tolerably busy. Freights for nois iron to your corts run at about 10. for pig iron to your ports run at about 10/ for steam to New York, up to 18/ for Baltimore. To Connal's stores an addition

3318 tons was made last week, bringing the quantity now held to 580,550 tons, as against 467,899 tons the same date last year. There are 118 furnaces blowing, against 32 a year ago, those lately un-der repair at Gartsherrie having been restarted. Shipments of Scotch pig iron to date this year have decreased 112,303 tons on a total of 369,520 tons. The imports of Cleveland iron into Scotland, on the other hand, have increased 36,728 tons to date on a total of 196,567 tons. Ballast pig iron is quoted 42/6 alongside. Writing from Glas-sude: "The iron market has been weaker this week at a lower range of prices, rallying, however, this afternoon, and closing a shade firmer. On Monday the market de-clined from 46/ to 45/8, and on Tuesday business was done from 45/10 to 45/7/2, cash. On Wednesday the market was easier, with transactions from 45/8 to 45/6½ per n, and yesterday the price advanced to /II1/2 per ton. To day's business has been ne between 45/8 and 46/, closing buyers at 45/10½, sellers 45/11 per ton. The ship-ments last week were 11,239 tons, as com-pared with 13,530 tons for the corresponding

week of la	st year."	We	quote:	
			No. 1	No. 3.
G. M. B., at	Glasgow		46/6	44/
Gartsherrie	, at Glasgo	W	53/6	48/
Coltness,	0.0		55/	48/
summeriee,	46		53.6	46/6
Langloan,	0.6		56/	48/
Carnbroe,	4.0		50/6	46/
Calder,	0.0		54/	48/
Glengarnoc	k, at Ardro	ssan	5x/	46/6
Eglinton,	, 66	0.0	46/9	43, 3
Dalmellingt			47/	44/
Shotts, at L				48/
Kinneil, at l				45/6
Carron, at (irangemou	th ,	48/	47/
	WEST COA	OF H	DATA TETTERS	

ntinue very firm with a strong demand. eavy deliveries, and some pressure for early utures. The quotations of the day are as futures.

muer:			
	No. 1.	No. 2.	No. 3.
Teator	63/6	- 62/6	61/6
onsdale		57/6	56/6
Workington		57/6	36/6
Vest Cumberland	58/6	57/6	56/6
owther	58/6	57/6	56/6
foss Bay	. 58/6	57/6	56/6
Distington		37/6	36/6
larrington	. 58/6	57/6	56/6
-lway	58/6	57/6	56,6
daryport			56, 6

Mixed lots of Nos. 1, 2 and 3 may be quoted 58/@ 58/6 in a general way. There are 59 furnaces in blast in the district out of 81. rurnaces in clast in the district out of S1. Last week's shipments of Bessemer and hematite pig iron reached the heavy total of 17,130 tons, and of steel rails and blooms, 4357 tons. A further advance in prices is 17,130 tons, and of steel rails and blooms, 4357 tons. A further advance in prices is not considered improbable prior to the end of October—possibly within the next few weeks. The probable removal of Wilson & cammell's rail mills from Dronfield to Mos Bay is much canvassed, but, I am in a posi-tion to state, is not yet settled; indeed, there are several serious difficulties yet to be vercome.

CLEVELAND IRON

quiet, but inclined to become a little stronger now that it has been authoritatively certained that very little pig iron accumuprices for G. M. B., net cash, f.o.b., at

o, r Foundry	41/ Mottled 35	5/6
3 4	37/ Refined Metal 5	2/
The official ret		rs'

particulars

Pig Iron.	18	81.	. ase.	Decrease.
Tig Nom.	Aug.	July.	Incr	
Cieveland, Port of	Tons.	Tons.	Tons.	Tons.
Middlesborough Cleveland, outside	141,567	139,0 9	2,558	
Port of Middles- borough	30,583	32.457		1,874
Cleveland, for whole district Other kinds (includ-	172,150	171.466	684	
ing hematite and Spiegel.)	52,309	50,897	1,412	
Total of all kinds	224,459	222,363	2,096	
Furnaces on Cleve- land at end of month	92	90		1
month	36	25	- 1	
Total	117	117		

Pig Iron.	18	81.	98.80	case.	
146 11011.	Aug. 31. July 31.		Incr	Decr	
Makers' stocks of	Tons.	Tons.	Tons.	Tons	
Cleveland, port of Middlesborough Makers' stocks of	100,701	98,709	1,992		
Cleveland, outside of Middlesborough	50,995	50,186	809		
Makers' stocks of Cleveland, whole district	151,696	148,895	2,801		
district	79,929	83,135		3,300	
In public stores—the N. E. R. Co. stores. Connal's stores	19,026	20,246 184,368	2,132	1,390	
Total	437,151	436,644	507		

	1881.		1880.	se on 1881.	se on	1880.
	Aug.	July.	Aug.	Incread	Decrea July,	Increa.
Foreign Coastwise	Tons. 38,877 46,024	Tons. 47.536 40,044	33.778		8,659	Toms. 5.999 7.137
Total	84,901	87,500	72,665		2,679	12,236

THE RECIPROCITY MOVEMENT,

so termed, or the "fair-trade" idea—both being convertible designations—has come to the fore front in the most unmistakable and

irresistible manner during the past week. am not at all surprised at this circumstan indeed, I have consistently pointed out that the tendency of public opinion in fiscal mat-ters has for at least two years past been steadily and strongly setting in the direction of some sort of revision of our free-trade system. In writing thus I have stood almost alone, and have been laughed at and scorned for the alleged singularity of my views and the so-called inaccuracy of my information.
The event has justified, and will further justify me in this respect. The current is running somewhat wildly against free trade as it now exists with us, and it is dead against commercial treaties in any form whatever. Three months ago the existence of a reciprocitarian or "fair-trade" move-ment in Great Britain was openly laughed at; within the past three days every daily paper in the country has had one or more editorials on the subject. The fact is now editorials on the subject. The fact is now duly recognized, simply because it has become a formidable political cry. It has won two seats in Parliament for the Conservatives this week, and has frightened away the Liberals from attacking a third now vacant In North Lincolnshire the Conservative candidate, the Right Hon. James Lowther, Chief Secretary for Ireland in the last Conservative Ministry, nailed his colors to the servative Ministry, nailed his colors to the fair trade or reciprocity platform, and conducted his canvass as an avowed and open opponent of free trade, as we have it at the present time. His opponent was not an extreme man and was much favored by the moderate Liberals, as well as by some Conservatives, but he utterly failed, and Mr. Lowther wrested the seat from the Liberals by a very large majority. In North Durham, Sir George Elliot did not quite confine himself to this simple issue, but he won the fight and probably owes his success to his anti-free trade speeches. In Cambridgeshire the Liberal candidate has been frightened out of the field because his preliminary ened out of the field because his preliminary canvass has convinced him that he would not would no canvass has convinced him that he would not have the slightest chance against his opponent who has embraced the fair trade opportunity. These, you will understand, are all chance or "bye" elections. When the time comes for the next general election, however, the campaign will be fought out on this question. The struggle will be most bitterly and offensively conducted by the free traders, but I venture to predict the bitterly and offensively conducted by the free traders, but I venture to predict the success of the anti-free traders by an enormous majority. Information in my possession leads me to the conclusion that the hostility to the pet theories of Messrs. Cobden, Bright & Co. is far more general and more determined than is commonly sup-posed. The farmers are returning to protection—that is the plain title to the new cry—almost en bloc, and their friends and allies, the rural tradesmen, are with them to allies, the rural fradesmen, are with them to a man. I have had this feeling pretty well tested on my own account, and I believe it to be just as I have stated here. I do not blame the farmers. They have a right to exist, and if they are wise—which I doubt, taking them as a class—they will push forward this new agitation until they secure a way the same of justice from that Parliament which they themselves assist to form. Sir Stafford Northcote, the leader of the Conservative party, spoke on the subof the Conservative party, spoke on the subject the other evening at Sheffield. I happened to hear the right honorable gentleman, and my impression was that he was trim ming his sails to catch the coming breeze although he has always been accounted a consistent free trader. The Duke of Rut-land, Lord Galway, Earl Wharncliffe, Mr. MacIver, M. P., and other speakers, at Sheffield, "went for" reciprocity without any disguise or hesitancy, and were most heartily cheered by a very large audience, mainly composed of local manufacturers. These are indications of what will shortly be apparent. The whole question will be raised afresh, and my impression is that Mr. Bright will not allay the agitation by the simple expedient of terming those who are not of his way of thinking "lunatics." Having said so much, however, I am compelled to say that I, personally, do not quit see how the revision is to be successfully worked out. It may be easy to destroy, but who is to build up the new edifice! I know of no man who is at all equal to the Herculear task; in fact, none of the recognized party leaders seem disposed to make the attempt so that the promoters of the movement must not only win the battle, but must also provide the new order of things—a suf-ficiently grave undertaking, in all con-

PRICES OF METALS, ETC.

The appended figures may be of interest to some of your readers, particularly if used for the purpose of comparison with similar

lead ore, picked, r cwt. kegs	- 80
	жB
ng lead	X.
ea lead	X.
heet lead	3.5
ead trine	15
11 tinned inside	17
lomposition man type	31
confluence to No as all as to at	17
ead wire, to No. 12, 28/, 13 to 10	00
tand leads, 28/, deep sea leads	90
in pipe	
	15
	87
Lardened shot	368
In in ingots	0.7
in, bars in 4 cwts. barrels	08
" a cwts. barrels	08
in Plates, Coke I. C., per box	00
Chargoal I. C. per how	00
lumbers' solder	48
inman's	58
rouge wilder	
as set and (order madenment)	16
Padroud No (1	
neduced No. 1	35
NO. 2	1.4
NO 3	13
ure English flake litharge. 5-cwt. casks	18
the same man and the second of the comments	27
ure English powdered litharge	17
ure English powdered litharge	18
ure English powdered lithargeood foreign flake litharge	28
ure English powdered litharge	18
ure English powdered litharge. ood foreign flake litharge. powdered. litharge range lead, powdered.	18 17 18
ure English powdered litharge. ood foreign flake litharge. powdered ale powder litharge range lead, powdered ry white lead	18 17 18 37
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ure English powdered litharge ood foreign flake litharge 'powdered ale powder litharge range lead, powdered ry white lead enuine ground white lead No. 1 No. 2 No. 0 upward V. M.	18 17 18 37 23 21 19 21 17 19
ure English powdered litharge ood foreign flake litharge powdered ale powder litharge range lead, powdered ry white lead enuine ground white lead No. 1 No. 2 leet zinc, No. 0 upward In nails, 15 upward	18 17 18 37 28 19 21 19 17 19 21 22
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ure English powdered litharge ood foreign flake litharge powdered ale powder litharge range lead, powdered ry white lead enuine ground white lead No. 1 No. 2 leet zinc, No. 0 upward v. M inc nails, 14 upward ard spelter lengtled spelter	18 17 18 37 21 19 21 17 19 21 24 18
ure English powdered litharge ood foreign flake litharge powder flake litharge range lead, powdered rry white lead enuine ground white lead NO. 1. NO. 2. NO. 2. NO. 2. NO. 3. NO. 3. NO. 3. NO. 3. NO. 4. NO. 4. NO. 1. NO. 3. NO. 4. NO. 4. NO. 5. NO. 6. NO. 1. NO	18 17 18 37 21 19 17 19 21 24 18 14 80
ure English powdered litharge ood foreign flake litharge powdered ale powder litharge range lead, powdered ry white lead enuine ground white lead No. 1 No. 2 leet zinc, No. 0 upward v. M inc nails, 14 upward ard spelter lengtled spelter	18 17 18 37 21 19 21 19 21 22 21 24 18 14
	ead encased the pipe composition gas tubing cad wire, to No. 12, 28/, 13 to 16. Isand leads, 28/, deep sea leads improved lead washers. ead anils cad washers. ead nails cad washers. in pipe cad washers. in pipe cad washers. in trace of the composition of the cad washers. in piate cad could be can be cad washers. in Plates, Coke I. C., per box. in piates, coke I. C., per box

FOREIGN.

PARIS. Sept. 4, 1881.—Metals.—Business developes normally: Metals are moderately active; the copes normally: Metals are moderately active; the copes normally: Metals are moderately active; the copes is a little lower; Tin a little higher; I Lead has given way slightly, while Spelter of the coperation of the cope of t BELGIUM.

BELGHUE.

(Revue Universelle.).

BRUSSELS, Sept. 4, 1881.—Iron.—All products in the line are well held in Beigium. At the late-adjudication of old railroad material belonging to the government lines, the French and English, paid such high prices that the general Beigian market has been much strengthened thereby. They paid at the time much better prices than Belgian ironmasters were prepared for. Affinage Pig is quoted here 5.50 & 6 francs, and Moulage, 7 francs. Various large transactions seem to be on the point of conclusion—among them some for America and India. The Belgian rolling mills are quite busy, especially those turning out Sheet Iron. We quote at the close: Merchant Iron No. 1, 12,75; Sheet Iron, 17,50; Corners, 14,75; Beams, 14,50; Steel Rails, 17; Steel Hoops, 23,50, and Steel Axles, 22,50. We have now advanced sufficiently into the fall season to feel pretty sure that the same will prove an unusually active one, for the general elements in the trade all favor it, activity being great throughout Western and Central Europe, especially in everything relating to railroads and building, and, as prices are still moderate, there is no hostitation on the part of consumers. While this refers to the local trade in Belgium and neighboring countries, orders from the more distant ones are also plentiful, and immany instances very large. Metals—Also begin to look up. We quote Copper per 100 kilos, 156 francs; Tin, 24, 50 @ 24,50; Lead, 37,50, and Spelter, 42. Coal.—No particular change can be reported, but the trarket evinces much firmness within the range of 6 to 11 francs. Washed Coke is worth 17.

GERMANY.

(Borsenhalle.)

Hamurgo, Sept. 5, 1887.—Iron.—On the lower Rhine and in Westphalia the tendency in the Iron market remains favorable, while Coal and Coke are unaltered. In the Moselle and Sarre region the active demand for Luxemburg-Lorraine Figiron continues; the same thing may be said with reference to Merchant Iron. The firms Wendell and Dilling have raised the price of Sheet Iron amarks. Reports from Upper Silesia are also highly ancouraging; Rod Iron has been raised to 125 marks as a basis. The Coal mines there have put up the price of Coal still further. Advices from our Austrian neighbors remain cheerful; Pig Iron advances in price in Austria, although the dealings are only moderate in extent. Bar Iron has become firmly established, between too and 120 florins per ton. The combined Steek works in that country have again received extensive orders. Coal is moving off well in Austria, except in Western Bohemia. Metals.—The market has been lifeless here. Lead is only moderately dealt in. We quote: English Pig, 16 & 16,502 ditto Sheets, 16,75 & 17,20: German ditto, 12,00 & 15,40; and Spanish, 17,50 & 12,85. Copper is firm. We quote: Droutheim Roraas rosottes, 67 & 68 marks; Wallarco Blocks, 69; Electrotype N. A. in Slabs, 74 & 75; Lake Superior, 76 & 77; and English Refined at 100 & 102, and other sorts at 98 & 100. Nothing transpires in Spelter. We quote Seliesian, 15,75 & 16 marks per 100 kilos, on the spot and to arrive.

AUSTRIA.

(Austrian Trade Journal.)

(Austrian Trade Journal.)

VIENNA. Sept. 4, 1881.—Iron.—Good progress cape advised in the Iron trade in this vicinity, espectly as regards Merchant Iron. which has led to great many fresh transactions. From Bohemia is true, complaints are frequently heard about the difference in price between Bohemian anstyrian Iron, in consequence of the reluctance of Styrian makers in advancing the price, which causes the Bohemian make to be neglected; but the fact is that Styrian Iron is intrinsically better and has a special line of custom, so that in reality to does not interfere much with Bohemian. The combined Steel Rail works have at length made bargain with the government, and seld in, soo ton for the Arlberg line and 4700 for the Rodolphu Railroad at 11 florins at the works, deliverable at the way to September, 1883. Structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron in the structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron is in the structural Iron in the structural Iron in the structural Iron is in the structural Iron in Railroad at 1: florius at the works, deliverable at the way to September, 1883. Structural Iron is request, especially Fillars. Stocks are light Thick Sheet Iron is also wanted. The Huttenber works, the Egydi-Kindberg, the Styrian and Verdernberg-Koffach companies have resolved tilquidate and join the Alpine works' consolidation Hardware sells readily. We quote at the close Pig Iron, 44; Gray ditto, 46; Bessemer, 48 & 3: a the works; Merchant Iron, 115 @ 118; Bohemia ditto, 100 @ 110; Sheets for locksmiths, 175 @ 186 ditto for roofing, 180 @ 185; ditto for bollers, 16 @ 170; ditto for tanks, 150 @ 185; and beams, 17 @ 118 florius per ton at Vienna. There is a slightimproved tendency in Metals. We quote: Copper, 72 @ 36 florius per ton kiloa, Tin, 177,50 @ 118; Antimony, 73; Lead, 17,50 @ 25,50; Spelter, 2 @ 25; Nickel, per kilo., 4; Bismuth, 11.50, and Zin White, 33 @ 45. @ 20; Nickel, po White, 33 @ 45.

CHILL. (Weber & Co.)

(Weber & Co.)

VALPARAISO, July 19, 1881.—Copper —Before the last mail left there were still sold a few small lots on shore here at \$18.70 to ballast a ship, and since then there were offered in vain some small parcels then there were offered in vain some small parcels were thus restricted to 677 quintals Copper at \$15.70, and 16.00 quintals Regulus at \$15.35 on board. Nitrate, in response to befter European advices has been unnually active, so much so that in some instances ship's room was wanting. To this must be added the circumstance that dating from the month of September next, the export, duty free, from Tattal will terminate, and that the call the standard of the company of the standard of the company of the standard of the company of the standard of the standard of the company of the standard of

To the Mediterranean To the United States—	8,90x	1880. Quintals. 1,207,452 22,033 320,822 62,698	1879. Quintals 1,906,892
Freights.—Vessels are unengaged only 6700	e extre	mely scan	2,059,748 ce; there

EAST INDIES.

Singapore. Aug. 4. 1881. — The.—The market copened at \$28 and slowly advanced until three days ago, when quite an active demand set in, owing to the July deliveries in England and Holland having been large. The price touched \$29 per picul. But the bulk of the businss has been done at \$28.62%, which is the closing quotation. Settlements during the fortnight aggregate 470 tous, and of this a good deal we think is destined a for the United States. Freights are again rather lower, but would now appear to have touched bottom. For New York the Mindet and Don Enrique continue loading. The American ship Elwell has been placed on the berth, but so far has engaged but little cargo. For Boston the Nehmiah Gibson has cleared and has been followed on the berth by the American ship H. G. Johnson. Exchange is quoted 3/9% for six months sight private bills on London. Tin shipments from the Straits settlements to the United States, seven months, 1880, 41,127 piculs; 1880, 85,116; 1879, 25,065; 1878, 27,785; 1877, 23,903; 1876, 26,607.

(Schmidt, Kustermann & Co.)

(Schmidt, Kustermann & Co.)

Penano, July 30, 1881.—The.—The market opened at \$23.40, at which there were some buyers for China, but it subsequently gave way to \$2,60 % \$37.80, when a lively demand again sprang up for the East, causing a recovery to \$28, to-day's closing figure. Sales sum up for the week some 5750 piculs, of which Europeans took 1750 piculs, and Chinese 4000; this includes 420 piculs resales. Stock now reduced to 100 piculs. Exchange—At first rising, advanced to 3/9%, but later on declined to 3/8%, the closing quotation for 4 menths' sight, bank.

(Hessenauer & Co.)

(Hessenauer & Co.)

Colombo, Efflow, Aug. 6, 1881.—Plumbago.—
A small business has been done in this mineral at
the ensuing quotations, per ton: Ordinary lump,
tre 6 13 rupees; Chips, 60 Q, 70; and Dust, 40 G
50. Shipments to all quarters from October 1 to
August 2: 1881, 150,300 cwts.; 1850, 172,034; 1870,
311,934 cwts.; 1878, 51,762. Exchange.—Six months
sight, 1/8.

The large caisson in the working shaft of the Hudson River Tunnel, at the foot of Morton street, this city, after having been sunk 16 feet, has been stopped by the tide-water breaking through under the iron shoes and flooding the chamber to the depth of 6 feet. The break under the caisson is due teet. The break under the casson is due to the nature of the earth in which the men have to work and to the nearness of the shaft to the river. Although the casson weighs 400 tons, it is not near heavy enough to pass through the earth, and 100 tons or railroad iron will be placed on the top to force it down. The caisson is the larger working chamber for underground work ever built, and after the air-lock has been put in and the railroad iron placed on top it will weigh nearly 600 tons.

An electric lamp on the roof of Metropoli tan Garden, in this city, was carelessly handled by a man named Thomas McDonald who attempted to regulate it, when he re-ceived such a shock that he fell to the earth below, dying instantly.

INDUSTRIAL ITEMS.

Manufacturing at West Waterville is very vely. The Dunn Edge Tool Company have The Hubbard & Blake Company are erectived an order to 200 persons.

The Hubbard & Blake Company are erectived a new scythe and tool shop. The corn canning factories of J. Winslow Jones & Co. are nearly finished. The new enterprise gives employment to 200 persons.

The Bangor Edge Tool Company have received an order from a lumbar contribution.

received an order from a lumber party in the West for 700 Peavy cant dogs and 50 lozen chopping axes

NEW HAMPSHIRE.

The Sibley Scythe Company, at North Newport, have enlarged their business, J. M. Morse, of Maine, having bought an interest in the firm. They are turning out 15 doze a day.

MASSACHUSETTS.

Jerome Wheelock, of Worcester, manufactured turer of the Wheelock engine, which took the medal at Cincinnati last year, is driving day and night. It is understood that he will very soon build a large manufactory, capable of accommodating his business.

The Pomeroy Iron Works, West Stock bridge, go out of blast this week. The pres ent company running the works leased them for two years, and their lease expires this fall. They will not renew it. There is a rumor that a new company will lease the works and continue the business.

The Co-operative Cutlery Co., at Green-field, are turning out double the amount of work done a year ago. They now occupy the whole of the buildings of the Greenfield ower Company, and employ 60 men. The Lathe & Morse Tool Co., of Wor-

are building a new shop, 181 x 55 It will be ready for occupancy by ster.

The Messrs. Reed, tack manufacturers are preparing to put in a furnace and ma-chinery for rolling zinc and copper in their building in East Bridgewater. Later they

will erect a building, 100 x 70 feet, for the heavier parts of their work. The Wheeler Foundry Co., of Worcester, is doing a very fine business in the manufac-ture of annealing pots for wire manufactur-ers, as well as a large amount in furnishing astings for builders of steam engines; the astings for the Wheelock engine come from the shops of this company.

There are now 350 hands employed at the Haydenville Brass Works, and the village was never so prosperous as to-day.

RHODE ISLAND.

The Nicholson File Company, Providence, re erecting a new shop. Power will be sup-lied by a Harris-Corliss engine. The new shop is to be used generally for their works, and for the manufacture of such specialties as the company may from time to time put upon the market.

CONNECTICUT

screw and leading screw, one 35 feet and the other 33 feet long, 4-inch pitch each. The lathe has two sets of heads, one of

It is stated that the liabilities of Fred It is stated that the habilities of Fed. Sterling, 7 and 9 Cliff street, are \$100,000. This firm were the agents of the Pocasset Iron Works, of Pocasset, Mass., of which Henry S. Sterling was the president and virtual owner, as he had \$49,800 of the capital stock of \$50,000. The iron works were Ital stock of \$50,000. The iron works were established in 1824, and the present company was formed in January, 1878. It is not yet known how much the affairs of the company are involved.

PENNSYLVANIA.

The Scott foundry has been in operation day and night all summer. Some of the employees have worked 52 days in a month, by working overtime. The last platen and bed plate of the five cotton presses were cast last Saturday, when some 25 tons of iron were melted. The last cylinder will be cast in a few days. Condemned cannon, some weighing nearly 6000 pounds, are put whole into the reverberatory furnace and

melted Staufer, McKnight & Co., of the Mt.

Fairchance Furnace, which was banked up last week because of the scarcity of water, has resumed operations.

The enforced suspension in the coal regions, owing to the scarcity of water to run the motive power at the colleries, still

run the motive power at the colleries, still continues. The only water used at a ma-jority of the collieries that are not using ne water is transported to them in tanks which, besides the inconvenience, adds greatly to the cost of mining. Notwith-standing this, every colliery that can be worked is kept up to its fullest capacity. The great fear is that an enforced suspen-sion will be necessitated by the giving out of the present sources whense water is ob-tained. If rain does not come very soon, one-half of the collieries in the Schuylkill region will be stopped, and, in view of this threatened state of affairs, everybody is eager to get all the coal possible while wate

For the 10 days ending September 10, the shipments of slate from Slatington and vicinity were as follows: Roofing slate, 3516 squares; school slate, 1115 cases; blackboards, 106 cases and 17 pieces; flagblackboards, 106 cases and 17 pieces; flag-ging, 14 cases and 115 pieces; mantels, 25 cases. The shipments of roofing slate from January I to September I were 64,868 squares, and for the same period the ship-ments of school slate were considered. ments of school slate were 20,384 cases During the last month roofing slate ha advanced \$1 per square.

Dr. S. M. Royer informs us that he is no

engaged in putting in a new hearth and nwall at his Rebecca Furnace. The furace will blow in on charcoal iron in a fee

A printed notice has been recently circulated, of which the following is a copy:

August 24, 1881. By request of a majority of the manufac turers of fruit jars belonging to the Easter Vial and Bottle Manufacturers' Association we have this day withdrawn all our molds and none will be used for the production of jars during the month of September. Consolidated Fruit Jar Co.,

49 Warren street, New York. HERO GLASS WORKS, Gaul and Adam streets, Phila.

The proprietors of the Pine Iron Works, fessrs. John L. Bailey & Co., broke ground on the 13th for a new rolling mill at Manatawney Station, on the Colebrookdale Railroad. Work will proceed on the new

mill as fast as possible.

The new mill of the Catasauqua Manufac turing Company was tested on Saturday, preparatory to its going into operation Everything worked well, and to-day it run

Everything worked well, and to-day it runs to its full capacity.

There is a boom in the construction of individual coke cars just now, consequent upon the scarcity of company cars. The Connellsville Machine and Car Company have built upward of fifty during the past couple of months, and have orders now for sixteen.

Wm. M. Kauffman & Co. have blown out the smaller of the two Sheridan furnaces on

the smaller of the two Sheridan furnaces on account of a chill it had some time ago. It has not worked satisfactorily since then. Rebuilding will be at once begun, and it is expected to be in working condition in

hort time.

Blast furnace No. 1 of the Reading Iro Works will be blown in about October 1.

Six new cars a day are now turned out by the Bellefonte Car Works.
Edwin Harrington & Son, northwest cor-ner Fifteenth and Pennsylvania avenue, are shipping their portable double-chain screw-hoisting machines and pulley blocks to all sections, including South America, France, Germany Pussion of China Alagren num. dermany, Russia and China. A large num ber of these hoists are sold in Europe. They are making a specialty of these hoists and blocks, manufacturing them of 14 sizes ranging from 500 to 20,000 pounds.

Stokes & Parrish, Thirty-first and Chest nut streets, Philadelphia, have recently filled several orders for elevating machinery, and have orders in hand for several of the store and warehouse buildings now in course of completion. Their works are running full anded on full time.

handed on full time.

The Emaus Furnace, the property of the Philadelphia and Reading Coal and Iron Company, was blown in on the 12th, and will henceforth be operated by Messrs. John Donaldson and W. Thomas, of Philadelphia, and Colonel H. H. Fisher and Mr. George Ormrod, Fisher & Co. The furnace has

The Pratt & Whitney Company, Hartford, been put in first-class condition.

The Pratt & Whitney Company, Hartford, been put in first-class condition.

The Star Lock Works, of Philadelphia, 38 feet, and is cast in two sections of 19 feet brand & Wolf, are well known as being each and bolted together. It has a feed screw and leading screw, one 35 feet and screw and leading screw, one 35 feet and among the oldest and most important consistency of the extraction of the lathe has two sets of heads, one of which may be removed at will, and also two color carriages.

NEW YORK.

The Chrome Steel Works, in Brooklyn, are running full time and shipping heavy corders of tool and spring steel.

The oldest and most important consistency in heads, and report trade exceedingly good. The Akron Iron Company are putting in a lawys having turned out a very superior in new engine and a new polishing machine, to class of goods. They have recently made increase their production of hot polished some very handsome improvements in the shafting. Both engine and machine will exterior of their premises, including an soon be in operation.

The new pump works of the John H. In new pump works of the John H. South Eighth street (and Samson between equipped with machinery of the most approaches the control of the stability of the most approaches the control of the premises, including an soon bein operation.

Eighth and Ninth), are in the very center of Bagan and Anth), are in the very center of the city. Adjoining them is the Times Building, and just around the corner, so to speak, are the Girard House, the Continental Hotel and the new Post Office. The premises occupied consist of four floors and basement of an L-shaped structure, fronting on both the thoroughfares named above. It is needless to say that there is a splendid equipment of the latest and most improved machinery. About 10,000 locks in twenty-eight different patents and in hundreds of styles, the mechanism being of their own invention, are turned out daily. These locks go all over the United States, into Germany, England and various other foreign countries and are everywhere recognized as the very perfection of this class of mechanism. firm evidently take a great pride in the well-won renown of their productions, and the most rigid supervision is incessantly kept up in order to guard against the possibility of anything imperfect ever leaving the stablishment

Messrs. Schleicher, Schumm & Co., Staufer, McKnight & Co., of the Mt. Messrs. Schleicher, Schumm & Co., the Penn Stove Works, Reading, made their only manufacturers of gas engines in this dirst shipment of a carload of stoves yester-deliberation on the store of the Hollidaysburg Iron and Nail Comparer of Thirty-third and Walnut streets, a pany's rolling mill has run continuously three-story structure, 50 feet front by 206 since the second day of June without stop-plete deep, which will enable them to increase ping for repairs, which is a remarkably good their working capacity threefold. This improvement, it is expected, will be compared to the search of the search of the works. from their present location to the new one before the end of the year. As soon as the spring building season opens, it is said to be the intention of the firm to erect additional buildings on the lot, which is 120 feet by 206 This firm now gives employment to 80 hands, the full force the present feet, about works have a capacity for, and, owing to this restricted area, they are now four months behind in their orders, notwithstand-ing the fact that they have been compelled to import some of the engines to supply pressing demands.

PITTSBURGH AND VICINITY.

The Fort Pitt Boiler Works are just ship-ing to the Edgar Thomson Steel Works something very considerable in the way of boilers. They are 20 in number, and are each 53 feet in length and weigh 22,000 boilers. counds apiece. They are of Singer & Nimick at mogeneous steel, and are destined to supply steam for the blast engines of furnace 'D" and "E" of the Edgar Thomson Steel Works. They will be erected in five batteries of four boilers each.

The glass works of Ihmsen & Co., on the South Side, were visited by a destructive fire on the morning of the 18th. The fire was caused by the explosion of an oil tank on the premises of Oliver Bros. & Phillips, and quickly communicated itself to the warehouses of Messrs. Ihmsen, one of which, together with the stock it contained, was entirely destroyed and the other partly de-stroyed. The loss is stated at from \$12,000 0 \$18,000.

to \$18,000.

An artesian well is being drilled at the Pittsburgh Forge and Iron Works, the purpose of the firm being to furnish water for the boilers from the well instead of from the

iver as heretofore.

Manufacturers of iron tanks for oil storage eport that the business is falling off. One atleman, who has a contract to make sevral large tanks for the Standard Oil Company, says that they want to get out of it, as they have no oil to store in them.

VIRGINIA.

Callie Furnace, in Botetourt County, is out of blist on account of a lack of water.

L. cy and Selina furnaces, of the Longdale Iro-Company, are both in blast and are maning botween 60 and 70 tons a day.

The Virginia Iron and Steel Association is at work constructing its large furnace.

at work constructing its large furnaces, near Joshen, Rockbridge County, and not at the site of the old California Furnace, as was previously intended.

оню.

Mr. E. McMillin, formerly of the Crescent Iron Works, at Pomeroy, has made some valuable geological discoveries while prospecting for the proposed line of the Ohio River Railway in Lawrence County. He has demonstrated the existence of a new and very valuable vein of coal, which has been opened in some places but he always here are reconstructed. in some places, but has always been supposed to be part of an old and well-known vein. He has also developed some new facts regarding the ore deposits.

The Youngstown Car Works are working

onstantly with a large force of men.
Mt. Vernon Furnace is running, and naking 14 or 15 tons of good warm blast per

day.
The Motherwell Iron Works, Lancaster, will be removed to Logan, in the Hocking Valley. The Lancaster property was valued at \$12,000, and the citizens of Logan subcribed \$20,000. The works will be operated by an incorporated company. The main building of the works will be 200 x 50 feet, and the work of erection will be com-

The Buckeye Engine Company, Salem, will furnish a 150-horse power engine for the Brush Electric Light Company at the Chiago Exposition.

Olive Furnace is running, doing well, and is making 14 or 15 tons of warm-blast iron

per day.

The Girard Iron Company, Niles, have leased the Thomas Furnace Company's furnace at this place for a term of years. It will be run in connection with the Girard urnace. The Cleveland Car Works have orders that

will keep them busy for two years. Buckhorn Furnace has been banked up ce June, and will probably remain so for

The Cleveland City Forge and Iron Company are building new works, fronting on Case avenue, having a frontage on the same of 80 feet and extending back 1400 feet. They contemplate also several additional buildings. They expect to occupy the works some time next year. They employ 250 hands, and report trade exceedingly good.

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them in the highest terms.

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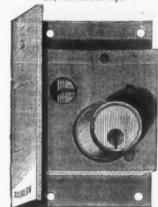
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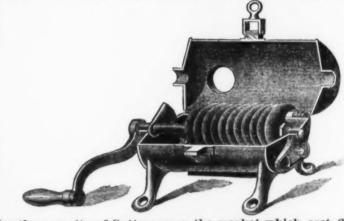
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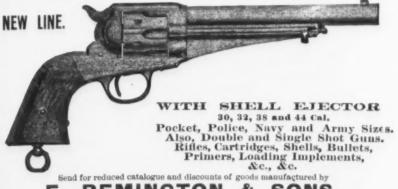
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proved pattern, and is in full operation These works are increased to fully double their former capacity. Some of the new additions in machinery, including a fine engine and elevator, were built by the company in their own shops. The new works pany in their own shops. The new works are situated on Central avenue, below Second street, comprising a substantial three-story brick building with a fine basement the whole having a wide frontage on Central avenue. The elevator in the building the whole having a wide frontage on Central avenue. The elevator in the building is driven by hydraulic power operated by one of the "Rival" pumps, and is worked with great ease and facility. Large orders "Rival" are being completed with , while other pressing orders are rapidity, while of waiting their turn.

GEORGIA.

Bibb Furnace is making between 17 and 20 tons of iron per diem.

KENTUCKY

Pennsylvania Furnace will probably have her new hearth completed in time to start up by October 1.

ILLINOIS.

The Chicago, Burlington & Quincy Com-pany will further enlarge their works at Aurora by the erection of two large build-

ings forthwith.

The Columbian Iron Works are building for the North Chicago Rolling Mill Company's Works, at South Chicago, an automatic cut-off engine, and have also under contract 200 car axles for F. W. Cory & Co. Charles F. Elmes, of Chicago, is building a 17-ton Willard steam hammer for the Cin-

cinnati Steam Forge Co.

The new works at South Chicago, of Willard, Sons & Bell, proprietors of the Chicago Steam Forge Works, will be 25 by 60 feet. Several thousand dollars worth of new machinery will be added, and it is expected that the works will be in running order by Dec. 1.

J. H. Bass, manufacturer of car wheels and general castings, employs 300 hands on full time, and the works are full of orders

for the next 60 days.

The Chicago Rawhide Belting Co. shipping about 10,000 feet of belting weekly. They are also making some heavy shipments to the New England States. They report they are full of orders and somewhat behind. They have also supplied the Mechanics' Exhibition in Boston with all the belting required, also the exposition to be held in Chicago from the 7th inst. to Oct

INDIANA.

The Atlas Engine Works, Indianapolis, have placed in the Cincinnati Exhibition one of their standard slide-valve engines. It makes 225 revolutions per minute, fur-nishing power for electric lighting. It shows great regularity of motion and

smoothness of running.

Subsequent to a judgment rendered by the last Greenup Circuit Court in favor of K. B. Grahn, sustaining his attachment of the Iron Hills Furnace and lands, an equity proceeding was instituted by him this week to enforce a sale of this valuable property. Everything about the A. C. and I. Rail-

way Company's furnace is in eplendid war to turn out an average of 50 tons daily o superior iron, using only raw coal for fuel The furnace is well stocked with all th necessary raw material, and is getting her yard full of iron.—American Manufacturer, Hunnewell Furnace has been running

rather irregularly lately, on account of scarcity of water.
Estill Furnace has been blowing since

June 1, and is making about 7 tons of car wheel iron per day.

All departments at the Norton Iron Works are in full blast, and everything is in fine working order. The furnace is making her usual amount of iron, and the nail factory the usual amount of nails. The excessive the usual amount of neils. The excessiv heat during last week and this has pre-vented a number of the men from workin

MICHIGAN

full time.

The following table from the Marquette Mining Journal, exhibits, in gross tons, the total lake shipments of iron ore the presen season, up to and including Sept. 7, together with the amount shipped during the cor-

responding period last year: Where from. Total1,291,429 8,446,84 An increase of 154,714 gross tons. on to this there

PIG IRON Carp River Iron Co.'s furnaces Pioneer Furnaces.... Total pig iron..... 5,828 Carp River Iron Company Ore to local points ...

and quartz, as follows:

Total ore, pig and iron and quartz 25,601 We hear that the Crystal Falls Iron Com-pany, propose to build a furnace at that

place.
The Florence Furnace will be ready for business by November 1st.
Stack No. 1 of the Jackson Iron Company at Fayette, did not blow in on the 30th of August, as we were informed, and as we stated in our last issue, but did blow in on Saturday, Sept. 3. It was intended to have started on Tuesday, but unforeseen delays prevented.
The packing house of the Lake Superior

Prevented.

The packing house of the Lake Superior Powder Company's Mills, near Marquette blew up on Tuesday week, destroying the building utterly, and killing eleven men who were employed in or about it. The noise and shock of the explosion was heard and felt at a distance of eight to ten miles away. ing whatever is known of the cause o

Horrock's machine shop and foundry, at fenominee, is being rebuilt rapidly.

MISSOURI.

The Smith, Beggs & Ranken Machine Com pany have occupied their new addition, and are full of orders.

The Whitman Agricultural Company nov have their extensive new works, at Eighth and Clark avenue, in operation, turning out arge numbers of implements and machin These works occupy 256 feet front on Eighth street and 128 feet on Clark avenue; three stories high, with basement, and additions forge shops, foundry, pattern rooms, &c The new establishment is well arranged t The new establishment is well arranged to economize the hendling of the various parts of the implements manufactured, and is of nore than twice the capacity of their old works. We learn the company now have large number of orders on their books, but have room for more, and will make every effort possible to fill promptly all orders they be favored with .- St. Louis Age of

Steel.

Kiefer & Co., late of Newport, Ky., have removed to St. Louis and reorganized under the name of "Standard Tool Company." They will have largely increased facilities for manufacturing their full line of goods, embracing in part, as specialties, picks, mattocks and grub hoes; also mining tools of all kinds of the best quality.

St. Louis is to have new water works en-

St. Louis is to have new water works en

ines. They will cost \$120,000.
The Groom Shovel Company are full of rders, and are now turning out 60 dozen



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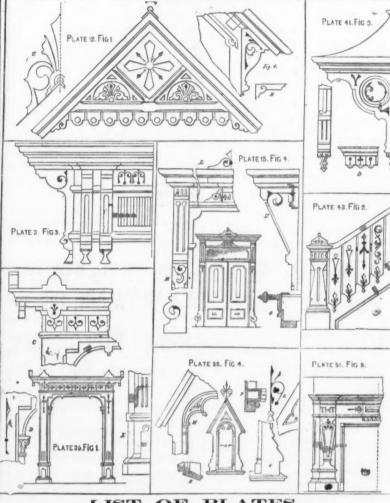
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Of the Various Parts needed in the Construction of Buildings, Public and Private, both for the City and Country; also Plans and Elevations of Houses, Stores, Cottages, and other Buildings.

By M. F. CUMMINGS, M. A., Architect.

Associate Author of "Architecture, by Cummings & Miller."

(CUTS REDUCED FROM PLATES INDICATED.



LIST PLATES.

PLATE 1.—Front Elevation of the Troy Ymes Building, Troy, N. Y. PLATE 2.—Designs for Cornices for City

Buildings and Street Fronts. Four figures. PLATE 3.—Designs for Cornices for Street fronts and for Suburban Buildings. Six gures.

PLATE 4.—Designs for Cornices of Street Fronts and Suburban Buildings. Nine PLATE 5 .- Brick Cornices. Four figures.

PLATE 6.—Designs for Cornices for Country Houses. Ten figures.

PLATE 7.—Designs for Cornices for Store Fronts and for Steep and French Roofs. Eleven figures. PLATE 8 .- Elevations of Fronts for City

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PLATE 10.—Designs for French Roofs and heir Finish. Four figures. PLATE II.—Designs for Gable Finish and rnices for Cottages. Nine figures.

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le Finish. Nine figures. PLATE 14.—Designs for Front Entrance ors. Three figures.

PLATE 15 .- Designs for Front Entrance oors for Dwelling Houses. Four figures. PLATE 16 .- Front Elevations and Plans Dwelling Houses. First and Second

PLATE 17.—Design for Front Entrance Four figures.

PLATE 47.—Design for Front Entrance Four figures.

PLATE 19.—Designs for Single Windows, having Outside Casings or Architraves.

Nine figures.

PLATE 48.—Front Elevation and Plans Court House. First and second stories.

PLATE 40.—Designs for Chimper Court House.

PLATE 20.—Designs for Windows with reched Heads. Nine figures.

PLATE 21.—Designs for Double or Mullion Vindows. Nine figures.
PLATE 22.—Designs for Exterior Finish of Vindows. Five figures.
PLATE 23.—Designs for Bay Windows.

Two figures.

PLATE 24.—Front Elevation and Plans for Dwelling House. First and Second Stories.

PLATE 25.—Designs for Bay Windows.

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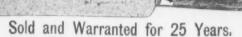
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ILON DUTY BARS. 1 to 1560 P B: Sheet, B Hoop and Scroll. 15 to 1560 P B: provided, that n	and 12 4
ILON.—DUTY Bars. 1 to 1560 W B: Sheet, B Hoop and Scroll. 154 to 1560 W B; provided, that n of the above Iron shall pay a less rate of duty the per cent. Pig. 87 F ton: Polished Sheet, 30. 8 Wrought Scrop, 88 W ton: Cast Scrap, 86 per Hallroad 700. W roo bs. Boller and Plate, 1560 W	
Figure American Foundry No. 1.	STEEL.—Duty: Bars, Ingots, Sheets and valued at 7 cents \$\pi\$ \text{Bars}\$, or under, 24\(\pi\$ cents; o cents, and not above it, 3 cents \$\pi\$ \text{S}\$, over it, 3\(\pi\$ \text{\$\pi\$}\$, and to \$\xi\$ ad val. Railway Bars, i\(\pi\$ cents Railway Bars, i\(\pi\$ cents Railway Bars, i\(\pi\$ cents Railway Bars, i\(\pi\$ cents Railway Bars, in part Steel, i cent \$\pi\$\$. Prov that Metal cemented, cast or made from Iron b Bessemer or pneumatic process, of whatever for description, shall be classed as
Gray Forge. # ton 21.00 Eglinton SCOTCH. # ton 21.50	F B, and to f ad val. Railway Bars, 14 cents Railway Bars, in part Steel, 1 cent F B. Prov that Metal cemented, cast or made from Iron b
Eglinton.	Bessemer or pneumatic process, of whatever for description, shall be classed as American Uast Steel.
Gartanerrie(None in market) Langioan	For American Steel see quotations under headi Pittsburgh.
Iron	English Steel.— 9 b.cc. 9 b.cc
Old Rails D H	Round Machinery, Cast. # D Swaged, Cast. # D Best Double Shear. # B
Har Iren. frem Stere. — Common Iron: 4 to in. round and square	Blister, 1st quality. # b German Steei, Best. # 2 2d quality. # b
Refined from	Company Comp
Retined iron % to 2 in. round and square. 1 to 6 in. x% to 1 in. 1 to 6 in. x% and 4-to. Rods—% and 1-to round and square. Bangis—1 to 6x-to to No. 13. Norway Nali Rods. 64 @ 6	LEADDUTY Pig 82 W 100 Ds : Old Lead. 1360
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25 \$0 26 \$ \$ \$ 450 5 6 554	N. P. U. BABBITT METAL.
Ualvanized, 10 to 20 \$ 3.B. ad Qui 21 to 24 \$ 5.60 \$ 75. 25 to 26 \$ 5.00 \$ 75. 25 to 26 \$ 5.00 \$ 75. 26 \$ 5.00 \$ 75. 27 \$ 70.00 \$ 70.0	N. P. U
4 27 F B 9660 S) 4 28 F B 10960 S Patent Planished F B 10960 S	of, Not enumerated, 35 per cent. ad. val. Bars, 19 and Pigs free. Banca, subject to duty of 10 per cent. Barca.
Russia	C English TIN FLATES. 22 @ 2
OUPPER.—DUTY: Pig. Bar and Ingot, to; Old Coper 4c B: Manufactured (including all article which Copper is a component of chief value), 45 % valorem.	IX 10x14 (Charces)
American Ingot	I X 12X12 " " " D C 12\(\frac{1}{2}\)X17 D X 12\(\frac{1}{2}\)X17
ft., and over per lb. Braziers' Copper, ordinary sizes, under 16 oz., and over 12 oz., \$\psi\$ ad. ft	DX 12/4x17 For each additional X add
SHEATHING BRAZIERS COPPER, BOLTS, ac. Braziers' Copper, ordinary sizes, 1cos, per sq. ft., and over por lb. Braziers' Copper, ordinary sizes, under 16 oz. and over 12 oz., \$\pi\$ so. \$\frac{1}{2}\$. Braziers' Copper to oz and 12 oz., \$\pi\$ so. \$\frac{1}{2}\$. Braziers Copper 10 oz and 12 oz., \$\pi\$ so. \$\frac{1}{2}\$. Circles less than \$\pi\$ iz. \$\text{n}\$ in co. \$\pi\$ sq. ft. \$\pi\$ is Circles & in. diameter and over. \$\pi\$ is Segment and Pattern Sheets. \$\pi\$ is Locomotive Fire Box Sheets. \$\pi\$ is Spheathing Copper, over 12 oz. \$\pi\$ sq. ft. \$\pi\$ is Bolt Copper. \$\pi\$ is Bolt Copper is Sheathing except 147 o inches and beto exceed 34 oz. to the sq. ft. TURNING.	CORE TH FLATE. CORE TH FLATE. Best. Ordina I C 10X14 } \$5.00 \$25.00 C 12X20 \$ \$5.00 C 12X20 \$ \$5.00
Segment and Pattern Shoets # B a Locomotive Fire Box Sheets # B a Sheathing Copper, over 13 os. W sq. ft # B b	TERNE PLATE Prime Char. 2d qual. Cok.
Bolt Copper. # B 2 Copper bottoms. # B 2 No Copper is Sheathing except 145 o inches and no	1
to exceed 34 Or. to the ad. 16.	C 12X19. 6.25 6.95 6
For tipping both sides, double the above amount	SPELTER-DUTY: in Pigs, Pars and Plates, \$1.50
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24x48x30x60. # B 38	Paper Stock, &c.
Brass. Brown & Sharp's Gauge the Standard for Metals. Of English Gauge the Standard for Wire. Brass Manufacturers' Price List.—dis. Nominal.	(Declared Selling Dec
BRASS MANUFACTURERS' PRICE LIST.—dis. Nominal. June 10, 180. Cash prices for Boll and Sheet Brass. For less quar ity than 100 Ds. add 30 # D.	White Shirt Cuttings, No. 1 616 @
AU Nos. not thinner than to No. 28, wider than 2 in	Mill Assorted Whites 54 6 Unblesched Muslins 64 6 Cliff Whites 14
20 in., inclusive	New Seconds, light 34 6 No. 2, Whites 25 6
	Linen Canvas, No. 1 4 5 Seconds, City No. 1. 15 6 5
All Brass thinner than No. 8 is Platers' Brass, at 19 Sheets 25243, and all sneets cut to particular sizes and lengths under 30 in., in width wider than 2 in. 37 Princers' Bules	Colors, per 100 lbs 75 @
Princers' Rules45	Manila Rope. 316 @ Tarred. 316 @ 3
Princers' Rules	Mantia Rope
neets wroot tossa so in and over	Gunny Bagging, No. 1 204 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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o in and over	Tar Shakings
circular Sheets, in diam from 4 in. to 14, inclusive, 20 in and over 1	Tar Shakings
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Circular Sheets, in diam from a li., to 14, inclusive, 30 of 30 and over 1	Tar Shakings
Circular Sheets, in diam. And over	Tar Shakings
Circular Sheets, in diam from a lil. to 14, inclusive. 30 OFF 14 50 45 OFF 16 50 45 LOW BRASS. 4c * B more than High Brass. Gidding Metal, Sc * B more than High Brass. Gidding Metal, Sc * B more than High Brass. (In Bars. 48c For SLITTING. Metal in width in to 1 in. thinner than No. 28, 2c. * Advance. Metal in width 2 in to 1 in. thinner than No. 28, 2c. * Advance. Metal in width 1 in. to 36 hinner than No. 28, 2c. * Advance. Metal in width 36 in. to 36 hinner than No. 28, 3c. * B advance. Metal in width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 28, 5c. * B advance. Metal, 1a width 36 in. to 36 hinner than No. 36 in No. 36 inclusive. Market Metal, Wira. Market Metal Wira. Market	Hemp Twine Stock 4366 4466 4466 4466 4466 4466 4466 446
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. 1.20 Glaziers' Points, Zinc				
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1.50 "Shellac, English dark	*******	******		
Litharge English				94
Pumic Stone, selected Lum powdered	ps			4 @
r. 7 " powdered				28
nts Pine Tar, bbls	******			83-
b. Futty, in bladders	******	******	*****	****3
or, 7 powderea pints Pine Tar, bbls tutty, in bladders in bulk the Rosin—Common and Good a or E&F	-Strai	ned	******	
or E&F			82.5	0 @ 2.6
I & K			83.0	0 @ 3.:
I & K			- #3-7	5 @ 4.0
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Whiting Spanish. Waste, No. 1 Cop "No. 1 White Machin				10
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15 X 36 to 24 X 30	10,25	9.25		
20 X 28 to 21 X 30	11.00	10.00	9.00	
26 X 46 to 20 X to	19.36	12.40		
8c 30 X 52 to 30 X 54	14.00	13.00		
6	15.00	13.75	12.50	
34 X 58 to 34 X 60	15.50	15.00	13.25	
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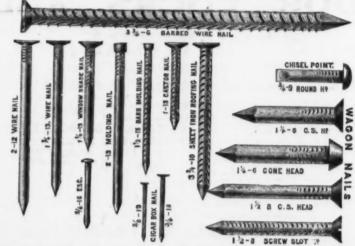
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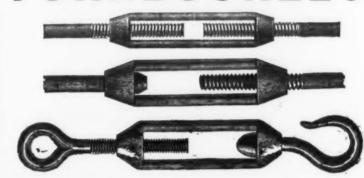
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To All Whom it May Concern:

To-day a decree in my suit against G. T. Fisher & Co., of Detroit, for an tringement of my patent, was made and entered, of which the following is an extract At a session of the Circuit Court of the United States for the Eastern District of Michigan, held at Detroit, on Wednesday, the 8th day of December, 1885.

Present, Hon. H. B. Brown, District Judge. NELSON LYON

GUYON T. FISHER, et al.

BYYON T. FISHER, et al.

It is ordered, adjudged and decreed, that the act entitled "An act for the relief of Nelson Lyon and Jere ulah S. James," passed by Congress and approved April 1, 1980, &c., is a good, valid and constitutional act.

That the original patent, bearing date July 9, 1974, and numbered 128, and and assued to Joseph Jarsaloux, Jeremiah S. James and Nelson Lyon, when corrected by the Acting Commissioner of Patents, as irrected by said act, was a good and valid patents, and first inventor of the improvements in metallic stiffents. That the said Joseph seeks mentioned and described in said letters patent.

That the Relasued Letters Patent No. 9126, dated May 11, 1860, granted to said Nelson Lyon for an improvement in metallic heel stiffeners for boots and shose, originally patented as aforessid, is a good and valid stem; that said Lyon to exclusively possessed of said Letters Patent and the invention thereby secured. That the defendants, G. T. Fisher & Co., and each of them, have infringed upon the said patents and upon he exclusive rights of said Lyon under the same.

That the defendants, G. T. Fisher & Co., and each of them, have infringed upon the said patents and upon he exclusive rights of said Lyon under the same.

That the defendants defendants sai'the profits, &c., they have made, and in addition thereto all he damage he has surfered by reason of the infringements by the defendants, and also the costs, charges and lisburesments in the action.

It is also further ordered, adjudged and decreed, that a perpetual injunction be issued against said defendants when the same also hereby nottined that the perpetual injunction has been issued and served on the defendants.

All questions as to damages and settlements in relation to infringements under my atents must be addressed to and made with my attorney, WILLIAM H. KING, in my care at the above address.

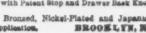
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New York Wholesale Prices, September 21, 1881.

	Wrought Brassdis 75% 5%	Cu tlery % deriden Cutlery Co. (Table)	Hand Cuffs and Leg Irons. Providence Tooi Co Hand Cuffs, \$15.00 \(\pi \) dis 10 \(\pi \) leg Irons, \$25 \(\pi \) dos	
nvils. Eagle Anvils A≋ssican № 10c dis 2c % right's	Tr A Solut November dis solute f	Naugatuck Cutlery Co	Tower's dis 20 % Handles.—Door er Thumb Latches—	Lemon Squeezers. Porcelain Lined
aftage's Mouse Hole	Broad dis quero	S Callana	Nos 0 1 2 3 4	Porcelain Lined. \$\pi\$ doz \$5.00\$—dis \$\text{Wood}\$. \$\pi\$ don \$\$1.00\$—dis \$\text{Wood}\$. \$\pi\$ don \$\$2.00\$—dis \$\text{Eureka, Tinned}\$. \$\pi\$ doz \$\$3.00\$—dis \$\text{Eureka, Tinned}\$. \$\pi\$ doz \$\$3.00\$—dis \$\text{Eureka, Tinned}\$. \$\pi\$ doz \$\$3.00\$—dis \$\text{Eureka, Tinned}\$. \$\pi\$ doz \$\$4.00\$—\$\text{Eureka, Tinned}\$. \$\pi\$ doz \$\$4.00\$—dis \$\$7 townsend's Patent. \$\$5.00\$ \$\pi\$ doz, dis \$\$\$5.00\$ \$\pi\$ doz, dis \$\$\$5.00\$
ikinson's	" with ACOTE?	Separation Se	no rinte, 30.07 uis 10 %	Idnes.—Linen Fish
an. Valley Mfg. Co	Maryer's Hinges. Glis 5087105	correy's Rod	Barn Door	Cotton Chaik. Sill. Lake Chaik Nos. o, z, z, z, \$0.00, \$6.50, \$7.00. 47.00 Mason's Linen dis z, wire Clothes. Galvanized each z & 400
nglass Mfg. Co	WROUGHT IRON.	Warner's	Fluen Chest. dis 55&10 ¥ Lifting liane dis 30&10 § Saw and Plane dis 3	Wire Ciothes, Galvanizedeach 25, 402 Locks and Latches. Locks and Latches. Locks and Latches.
cher French, Swift & Co)	Fast Joint Narrew	No. 1, Large, saparated	Hammer and Hatchet	Capinet Eagle
les Mfg. Coson's Patent	Broad	No. 4, ("Snoo Fiy") Screen door size \(\psi \) dos \(\subseteq \) (is No. 5, Screen Door Size. \(\subseteq \) dos \(\subseteq \) 2,75 (30&10 \(\subseteq \) (30 \	Hickory Firmer Chisel, assorted, # gross \$4.50 large, 5.50	" P. & F. Corbin a dis 30% Trunk new list, Jan. 1, 185; dis 15, Langstroth & Crane's Liss Jan. 1 77, Round Key, No. 1 to 5, dis 40, 10 to
1 Mfg. Co.'s C. S. Augers	Broad dis 5,082.5	No. 7, Large	Socket " sasorted, soo 2021	Round Key, No. 1 to 5
Jenning's Bits	Spring Hinges - American Spring Butt Co., Jap'd dis 25 2	Sabin's Crown	File, assorted, # gross	A. E. Deltz, Flat Key
nt Soild Head	Spring Hinges — American Spiral Spring Butt Co., Jap'd dis 25 5 American Spiral Spring Butts, Japanned	StartCoil - For Cop'd, Nickel-Plated, &c., see list, No. 4, 19 noo F y Sereen door size \(\) dos \$2.00 dls, \(\) No. 5, Sereen Door Size \(\) \(Patent Auger, Ives"	"Feiter" or "American '
sell Jennings Car and Machine Bits, Soring.	GECT # SPATING TO A STATE A STATE A STATE OF WE	Drawing Anives. Arlington Edge Tool Co	Dann Door old nottorns dis foltre C	Brantord .
"Jennings" Bits	Union Spring Hinge Co.'s. dis 25 %	Arington Edge 100 Co. Glis Oct 25 Crossman's No. 1 Glis Oct 25 Merrill Glis Oct	New England dis 60&10 5	Norwalk
Tennings Dis 18 339210 2 198 Bits, Clark's, small, \$88 l'gc	American Spring Hills Union Mig. Co. dis 24 2 Rommer's dis 25 5 dis 25 5	Witherby Tool Co. dis 50.52 Witherby Tool Co. dis 50.52 S.	Sterling Improved (Alti-Friction), dis 50&10 % Cheritree , dis 50&10 % Kidder's , discours of the start of th	Russell & Erwin of Dec. 1, 188c, and A mallory. Wheeler & Co 19, 1881, dis 45&2 % Reading Hardware Co
w Augers Ives' French, Swift & Co dis 15&10 % Douglas dis 15&10 %	Buckman 5, Parkel dis 70 5 dind Butts, Parkel dis 6,62c 5 Falmer dis 6,62c 5 Garmon dis 70 5	Original Originations	U. S	reating Hardware Co Padiocis—Hussell & Erwin
"French, Swiff & CO "Douglas. "dis 1-de 10 \$ "Bounev's Adulust. "# dos \$45-dis 2-de 10 \$ Stearns' Adjust. "# dos \$45-dis 2-de 10 \$ "Ives' Expansive.each \$4.co-dis 2-de 10 \$ "Universal Expansive.oach \$4.co-d	" Shepard's "Double Locking", dis 70 %	Blacksmiths Seif Feedingeach \$7.40, dis 20 % Breast P. S & Wdis 20&10 %	Henshaw'sList of 134 changed to 14 co, dis 55 & 10 \$ 1	Yale Lock Mfg. Co.'s "Standard"dis Romer's
	Lun & Forter	Breast, Wilson's	Hotchkiss' dis 16 % Andrews' dis 5 % Andrews' dis 6 % Gas 6 % to 9	** Conestoga dis J. H. NcWilliams dis A. E. Dietz dis ** Star** dis
Diamond	Nicholson. dis 40 #20 %	Creast, Wilson's dis 20 5	Salgear	Lustro.—4-0x. bottles, per doz, \$2; per gro, \$18; Mallets.—Hickory
Plasional Society of S	NO. 12 dis 70&10 % Reading 8 Gravity dis 70& 5&10 %	Metrop's dis 20 % Weston's dis 20 %	finichets.	Tombold Clock Co. Vig. Apple & Blokens
a Dit stook Drill dis as s	How Pine.	Wilson's Drill Stocksdis to \$	Saink Blood	Ment Cutters. Dixon's (P. S. & W.) Nos. 1 # doz. \$14.00 17.00 19.00 30.00—dis Miles' Challenge
	Sargent & Co '9		Chinalina Near and Didon for at 199 at 199 at	Miles' ChallengeNos. 1 2 3 # doz. \$22.00 30.00 40.00—dis
	Humason & Beckley Mfg. & dis 20	Danbury	Shingling, Nos. 1 2 3	Each\$4.00 4.00 5.00 11.00 13.00 36.00 —dis Woodruff's (P. S. & W.)Ncs. 100 140 # doz \$15.00 18.00 dis
a to a Chart Branch dog die ob a con C	Beatty's	Dover \$2.5 od 18.2 %	Claw, Nes. 1 2 3 # doz 0.00 9.50 10.00 Lathing, Nes. 1 2 3 # doz 8.00 .50 0.00 Yerkes & Plumb	Hales'Nos. II (2 I3 # doz\$27.00 33.00 40.00.dls 40&100 Draw CutNos 6 2 0 8 10
" Leather Top 13.00 " Clis 40.50 3 1 4	Can Openers. Comet	Formily ner gross at the dog, at so net	Country and a great training data day day	Each850.00 75.00 80.00 225.00 400.00—dis
Shouldered Peg # gross 2.45—dis 25&10 %	Americau # gross #7.50. dis 10 5 Duplex # dos 250. dis 15@20 5	Rievator Buckets.	Lathing Nos V dox 7, to 8.co 8.to 8immon 9 dis 2c 8immon 9	Each. \$\$6.00 75.00 80.00 225.00 400.00—dis American dis Nos. \$0 3 4 8 5 Each \$0 20 10.00 20 60.00 60.00 Kleser's No. \$0 50.00 \$0.00 00.00 dis Gem \$25 per doz. dis Silver & Deming dis Pennsylvania dis 40.00 Nos. 1 2 3 0 00
Shouldered Brad gross \$2,70—dis 25&10 g	Lyman's	# 100 \$15.00 @ \$4.00, dis. 10 \$ Mill E. Buckets, heavy, \$ to 10 inches (Duc's Improved) ₩ doz \$4.00 @ \$10.20 dis. 10 \$ \$torchouse, Duc's Pat.) 12 to 27, \$12.00 @ \$20.00 dis. 10 \$	Lathing, Nos. 123,\$ dos 8.00 8.50 0.00 f. Broad, Nos. 1234\$ dos 6.00 10.00 12.00 14.00 Nos. 6678\$ dos 6.00 18.00 20.00 22.00	Silver & Deming
Handled Scratch	Sardine Scissory	Process and Process Stanger	Collins Shingling, Nos. 1 2 3	♥ doz
No. 42, \$10.50; No. 43, \$12.50	**Sprague	Regular numbers. # 5 60 Flour and F F. 6. & A. Enery Paper. dis 25629 5 6ibley's Enery and Crocus Cloth. Large size, \$15; Medium, \$10.50 per ream; dis 15 8	Lathing, Nos. 1 2 3 # dos 6,00 6,50 7,00 Hay M. nives. "Lightning". # dos \$30,00 net Wadsworts # dis 33%	Mincing Knives. Am., (2d quality) per gross, z blade, \$7: 2 blades, 3 blades, \$18
No. 3, 7.80dis 300205	Cnpa-Percussion, # 1000.	Large size, \$16; Medium, \$10.50 per ream; dis 15 \$ Enameled and Tinned Ware.	Wadsworth s	Milioting Knives. Am., (3d quality) per gross, 1 blade, \$7: 2 blades, 3 blades, \$15. Cothrop's Smith's., per dos, Sirgle, \$1,3:; Double, \$1.50; dis Cowles Hidw Co
Bit, 4% to 4% and under	U. M. C. Cen. nre ground 700 dis	Kettles. dis 45 % Sauce Pans. dis 30 % G	N. E	Molasses Gates. dis Steppins Patterk
4% to 6 and over @ doz \$20.00 net	Double Waterproof in 1 10's St. 10' die	Tinned Sauce Pansdis 20 % 10	" N. V. State	" Tinned Ends dis 40st Chase's Hard Metal. dis 10st
Grease.—Frazer's	E. B. 1-10. Trimmed	Escutcheons. Door Lock	" Bhepard's 208, 10, 20 & 25, 118 00 % mil	Bush's
Spring Balances	CartridgesRim dis 70&10 5		Rolled Plate	Boss, No. 1 2 3 4 4 5 5 5 5 5 5 6 5 6 6 6 6 6 6 6 6 6 6
Light Brassdls. 65&10 g		Pauceta. Rohren's Pat. Rubber Ball. dis 40 \$ 8		National Nat
White Metaldis 60)	Carpet Stretchers.	Charles Ball. dis 40 % Bohren's Pat. Rubber Ball. dis 45 % Bohren's Pat. Rubber Ball. dis 45 % Fron's Cork Stops. dis 415 % Bohren's Fatent Mey. dis 45 % Metallic Key. dis 45 % Metallic Key. Leather Lined.	Heavy Welded Hook 8 to 12 in., \$6.60 % 100 B dis 10 % B 14 in. & up. 5.28 100 B 018 10 % B 15 m 15 m	add 3c to int.) square Nuts
Nonkeedis 3rd10 7	Cast Steel, Polished # dos \$1.00, dis 30 % ' iron Steel Points # dos \$2.00, dis 45 % M Sullard's dis 25 % C	West Patent Key dis 40 %	Screw Hook and Eye in. 90 dis	Nut Crackers Table (Humason & Beckley Mfg. Co.)
Brook's	Casters.	J. Sommer's Best Metallic Key.	Wrought Strap and T. list Dec. 30, '77 dis 4. diod: 0 %	Rlake's Pattern
Globe (Cone a Parent) dia 20210 3 Abbe 8 dia 20210 3 Yankee dia 30210 5 Barton 8 dia 20210 5 Taylor 8 dia 20210 7 Taylor 8 dia 20210 7 Come 8 dia 20210 7 Taylor 9 dia 20210 7 R. & E. M. Co. 9 dia 20210 7 Taylor 9 dia 20210 7 R. & E. M. Co. 9 dia 20210 7 Taylor	Plate and Shallow Mocketdis 40&5 % Deep Socketdis 25&10 7	Relian Plates	Planters'	Oakum. U. S. Navy # b
esterndis ackros sa	iumason. Beckiey & Co.'s	### ### ##############################	Scovill Pattern Handled	Allow - Tine and Tin
ommon Wrought	('ha.m. * pair 790) J.	J. & Riley Carr, Horse Basps	Winsted & Lane, Finiters dis 25 \$ P. dis 200325 \$ P. dis 200325 \$ P. dis 200325 \$ P. doy &c. net	Brass and Copper dis 5 dis 6 d
"Sarpent's new list dis soctos entucky "Star". dis soctos entucky "Star". dis soctos de soctos entucky "Star". dis soctos de soctos entucky new list.	7-IO-2 Ppair 86c)	Walter Spelicer & Co.'s "Diamond" 4.50 to £	Hooks.	Brass and Copper
odge's Genuine Kentucky, new list- c 1 156 2 3 4 5 0 Hog dis 50 5 0 in	vert Haiter, Hitching and Breast dis 343 H needs Halter Chain (old list) dis 405 H	Oss & Gamble. 4.50 to S C 4. Diaston & Sons (new list). 01s 40 15 C 4. Diaston & Sons (new list). 01s 90 5 C	otton, Patented (N. Y. Mallet & Bandle Wks), dia 305	Ox Bails
trae "Star"		Nicholson	Reit	Faber's Carpenters'
Extra and Pittsburgh Pattern dis 20 5 X	Thite # gross for net	Fluting Machines. Knox. 414-inch Rolis	" Weston's, No. 1, \$10.00; No. 2, \$9.00 \(\) Gos ols 22, \(\) McGill's, \$5.00 \(\) doz	Dizon's Carpenters' dis 40 & r
olting and Packing Codis, 20@50 %	Chisers.			Packing, Steam. N. Y. Beiting and Facking Codis : Picture Nails.
iolders.	ocket framing, Crossman	" 5 " "	Cont and Hat Sargent's list	Dress Hood Sargant's Tist dis solve
ives' ₩ doz \$15.00—dis 40 s di ₩ doz \$24.00—dis 40 s ₩ doz \$24.00—dis 40£5 s	Witherby Tool Codis 65-210 % Eu	36	gross dis 25 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	T. & S. Mfg. Co. dis 4 **Porcelain Head, Sargent's 1.1 dis voz: "Judo" 1.5t dis 2.5t dis voz: "Judo" 2.5t dis 3 **Nics" Patent. dis 2 **Silva Co. dis 33 **Nics" Patent. dis 2
A djusters.—Domestic doz \$1.00, dis 14 5	Buck Bros			Picks and Mattocksdis 3
d'sScrew pattern, per gro., \$1.00. dis 205	witherby Tool Codis 05@ to 5 Do	American, 5 in., \$3; 6 in., \$3.40; 7 in., \$4.50 each, dis 25, \$\text{W}\) Comestic Fluter	Vhimetree—Patent	Plaiting Machines. W dos \$10.00, its stor Plaiting Machine
old pattern P gross, \$8.50 net	Corper dis oct to 5 Cranged Firmers extra dis 45 Sh.	Frown Hand Finter, Nos. I, \$14.00; 2, \$15.40; 3, \$10.00	Nos. 5 6 7 8 0 10	fin. \$6.00. Icin. \$8.00.eaca
	nged Firmers oxtra	** No. 95, 80.00; No. 110, 87.00; ** No. 70, 812.00; No. 65, 88.00 net Er	linton, " 290 210 200 190 180 dis 20 %	Planes and Plane Irons. denca, First Quality
% In ₩ D 130 net C		Gle	utinial, et36 290 210 200 190 18036 20 100 attended attended250 290 210 200 190 180360 250 250 200 210 200	" Second " dis 4 foulding diev's (Stanley R. & L. Co.) new list Jan. "79, dis 26 ne Stanley (S. R. & L. Co.) " dis 26 ne Stanley (S. R. & L. Co.) " dis 26 nelev's "Uctor" dis 26 nelev's "Uctor" dis 26 nelev's "Uctor" dis 26 nelevis die 26 nellevis die 26 nellevis "Uctor" dis 26 nellevis die 26 nellevis "Uctor" dis 26 nellevis die 26 nellevis "Uctor" dis 26 nellevi
Block Co., Kope and Iron Strap'ddis 40 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	" Snow'sdis 40% 5	Fig Traps.	Forgedabc acc age age all ale accdis to a land	aliev's "Victor" dis 20%; effance Adjustable die 20 km affilm Mfg. Co. dis 32 km affilm Mfg. Co. dis 3 lane Irons, Butcher's \$5.40 fc.
R. & L. Co., Rope and Iron Strap'd dis 40&10	Cabinet, Sargent's dis 20&10 %	Forks.	I Horse Shoe Co., Perkins' Improved Light,	Ane Irons, Butcher's
Barrel, Shutter, &c	Clina, Axia,	'A Reed & Barton	Medium and Henvy	Buck Bros
Barrel dis 60 to 1 sup	periordis 66% \$	Fruit and Jolly Presses,	ce Awis, Unisels, de. American lee Chisei	Piters and Nippers.
Brass Knob, "dis 20010 5 Grif	Cockeyes	nterorise Mfg. Co	American fee Chisel	utton's Patent
Stanley's dis 75/210 Co	Cocks, Brass. Cking new list July 10, '80') Bur No.	urnished, list as foliows	od Head Picks, Sargents 7 dos 31.0s. dinades: 2 dos 1.0s. dinades: 2	as Pilers and Ninners
Plated Knob & Slide Flush dis 50&26 % Plated Knob & Slide Flush dis 50&26 % Plated and Tire, Common dis 80 % Ale 3	dis blobs	dom\$3.00 \$3.75 4.25 4.75 5.25 6.00 7.00 E.00 9.00 f.ce Acme"		ussell's Parullel
Shelton's cold limi dis fokto	Coffee Mills.	Auges. Con Marking, Stanley's	ettles.	Plumbs and Levels. (a) 40 (b) 40 (c) 50 (c) 60 (d) 60 (d
Carriage (old list)	Son's	Are. dis 10 % Bra co 10 % Bra co 10 % Bra co 10 % Bra co 2 % Bra c	K ulves.	" Non-Adjustable dia bake " Non-Adjustable
IV State". dis socio : Co & W. new list. dis 70210 \$ Co merican Sersey Co.'s. di4 40 \$ Per c	combined Dinner Pull and Lantern. Nail	4 A M	nog! Rutcher Knives	Non-Adjustabledis 65&10
	ompasses. Dividers, &c.	Diamond Gimlets	oran's Shoe and Bread Knivesdis 20 3 Procy and Straw—. Wadsworfh's"dis 33/5 Dav	retet Laveis
fg. Co dis of Con tis to Con tis tis to Con tis	nis & Cail Co.'s Divigers dis 60% 5	14 Ives'	rriage (Jap'd Soc. F gross)dis to & rot san	mson Post Hole Diggerper dos \$37.40, dis 20
Mechines. Upright, Angular,	Compasses & Callipersdis 5 c& 5 City of the Call's Pat. Inside dis 30 Fam. Call's Pat. Inside dis 30 Fam.	Bask	se—Common	ughan's Post Hole— 5 in. \$27.60; 7, 8 and 9 in. \$25 per dosdia 20&10 treks Diggers # doz. \$40.00
lity, no Augers \$0.50 \$0.75dls 40 \$ Exce with Augers 50 7.00 net Mille	Cali's Pat. Inside dis 30 % data 50 % dis 50 % d	"L. & C.'s Handy	For Japa Same discounts as Door Locks. Lee	Pruning Hooks and Shears. aston's Combined Pruning Hook and Saw per dos \$10.00, dis 20
ngeable Shelf Boxesdis 20 % Grad	Sarg Read diey's	rgent's Patens	rniture. Plain	Pruning Hook
	oriscrews.—Humason & B	M. C. B. E. 11 up	Bargent's	rulleys.
s Patent	dsworth's dis 33/4 %	ti p n dia saka sa a	ndles. Jap.	p'd Screw dis 6c210
Impd die of the	urling Irons Are	Halters, vert's Pat. Rope	P. S. & W dis 30%10 % Hay	ord Side. dis 6.ekm Olothes Line die 6.okm y Fork Solid Eye,\$3.50; Swivel, \$1.00, dis 50km "Anti-Friction" and Pat. Bushed. dis 20.
Dall Ale - of Conti	6, § 10., \$1.80 2.00, 2.40	se and Cattle Ties, Covert's dis 50% Tub	No. c, \$8.65; No. 1, \$10.15 } net with Guarda 350 extra. } 11 City	"Anti-Friction."
	urry Combs. h's new list	Ammors.	eor. No. 1, per doz., \$9.50; No. 2, \$8.50, net Pricane No. 2.	"unches
t Wire troods list of Dec.15, 1879. dis bedie ?	Hart his new list. dis 50 5 Hum chkiss Noveity new list, July, 180, dis 25 5 "Excir. Supr. Champion dis 5 5 rence "Perfect" dis 25 8 war wer	18800 & Deckiey Gis 5 Brad reck Ros 1, 2, 3, 81.25, 1.50 and 1.75.dis 25kt of Ety Gis 15 Gis	dis rodro z deriv	mis & Cali Co.'s Cast steel Drivedis 50& 5 Springfield Socketdis 50& 5 Ying
dia 655&2105 Rubb low list dia 35% Cur a. Beckley VOs.'sdis oction White	PCF	Alls 20 ≤ De y	na. dis 102 o 5 kee. dis 102 o 5 Beque. Beque. (ce. Small, \$6.8; Med., \$7.6; Large, \$12.0, dis 10 5 envex Reflector	Als & Call Co.'s Spring and Checkdis se

Rail. Sliding Door Wrought Brass # D 430 dis 30	Shovels and Spades. Ames. New list, July 1, 1581
## Silding Door Wrought Brass ## 542 dB 30 cm 1	Old Colony. dis-
Per 100 feet \$3.10 2.70 3.30—no	Remington's (Lowman's Patent), dis Rowland's
J. R. Torrev Razor Codis 15	g Iron and Brass Head, R. & E. listdis fooksook Polished Steelnew list, dis tooksook
Badger's Emersondis 40	Square Framesby casedis 7
Evans'	Defiance Metallic
Badger's (not Emersons) Clis 30	Polished Steel new list. dis toktos States. by case. dis 7 Square Frames. by case. dis 5 Less than a case. dis 5c. Speke Nhaves. Deflance Metallic. dis 20%; fron. dis 40%; fron. dis
etives. ron and Tinned	Speke Trimmers. Ronney's. Stearn's. Widos \$10.00 dis 208. Stearn's.
Column C	Ives'No. 1, \$15.00; No. 2, \$12.00 % doz, dis 50&1 Douglass'
N D490 500 500 540 560 580 600 550 7000 Burr's	Basting
Hadh.	Sericannia. dis 65& Reed & Barton. dis 40&5&
Stair, Brassdis 25 Stair, Black Walnut,dis 40 Stair, Amer can Patentdis 20	Hall & Elton
at allows	Cast Steel, Sii. Plates
Rarn Door, Sargent's list	Douglass
Repe Mnfs' Net List. May 21, 1881, dis on cool by and over, 15c 2 and ove	"Lightning" Screw Platedis
Tar'd Robe	Hindostan No. 1, 0 C; Axe, se
Hay Rope. % inch and larger # B 104	Signe. Hindostan No. 1, 6 c; Axe, 8c dis 20&:
Hay Rope # B 104	Arkansas Stone No. 1, 4 to 6 in
Hajes Boxwood Ivory. napin's dis 70&10 \$ dis 60&10	Slips \$2.50 \(\pi\) is told in the Superior (Chase). \(\pi\) is 20c, dis 10d
aniey	Grindstones, Family, Loring'sdis is
From 1 to 10 lbs	Joseph Dixon's
leason's Shield and Tollet	"Mirror"
And from to the	Stove Pollsh. Figross \$0.00 dis 1
mand Paper- ieder & Adamson's Flint, oo to 114\$4.75 % ream	Steeldis 50 % full cases, dis 50&10 % 2 2 4 4 50 % full cases, dis 50&10 % cases.
### Paper	Steel
Emery. F ream \$6.50 @ 11.50	Winterbottom's Try and Mitredis 2021
w England, same list as B. & A. Flintdis 25 ge's	Try Squares and T Beveis dis collisions Try Squares and T Beveis dis collisions Try Square and T Beveis dis collisions Try Square and T Beveis dis collisions Try Square and Mitre discourse the state of the state o
mmon P b 16c ne	Swedes Tacks, all kinds
tent	Gimp and Lace Tacks
w Hide dis 10	Trunk and Clout Nails
dash 1.ecks.	Brush Tacks. dis 25 % Brush Tacks. dis 25 % Leathered Carpet Tacks. dis 26 %
rguson's dis 33771 alker's med's Window Springs dis 2x;	American Cut Tacks
orthup Window Springs, No. 1, \$10.00; \$2 gross.dis 15; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00; \$2 gross.dis 16; brithup Window Springs, No. 1, \$10.00;	Double-Pointed Tacks
" Nickel-Plated # gro 27.00 ne Universal"dia 30 7	Ives' Tap Borers dis 142 Common and Ring dis 142 Common and Ring dis 142 Common and Ring dis 24 Common and Ring di
A COLOR STATE OF STAT	American die ac
ansage Stuffers or Fillers. W dox 820 dis 30	Thermometers.
and O'U	Tobacce (Jutters. Enterprise Mix. Co. (Chambion). Enterprise Mix. Co. (Chambion). Wood Bottom Wood Bottom All Iron. Wood Bottom Wood Bos, 50, dis socc. Nashus Lock Co.'s. Wilson's. Gla 36 Toe Calisa.—Winsted Truners' Toels and Machines.
Ver hurs and	Mood Bottom # dos \$12.00, dis 40.00 All Iron # dos \$9, 50, dis 40.00 Nashua Lock Co. s # dos \$15 00, dis 20.00
ston's Circular	Wilson's
"Hand. Panel, Rip. &c	Tinners' Tools and Machines. Machines (P. f. & W.)list add 20 Tools (P. S. & W.)add 6
Billet Webs, 30 in	Transom Lifters.
heeler & Ciemson Mfg. On, s Hand	Transom Lifters. Wollensak's Patent. dis 55 Richer's Patent dis 20810810 Excelsior. dis 5081082
Ston's Circular dis 405	Traps dis 50%1002
RW Frames.	Mouse, Wood, Choker
Per United	" Catch-em-alive
nw Mefs. rnton's Patent X Cut, per doz. \$12.00; Hand Saw, or des. \$10.00	Trewels Lothrons Brick and Plasteringdis 25 Reed's Brick and Plastering
Rods.	Trewels Lothrous Brick and Plastering Lothrous L
	Rose's Brick. dis 15 Brades' Brick dis 15 Worrall's Brick and Plastering dis 20
Bemis & Cali Co.'s New Patdis 30&c 5	Worrall's Brick and Flastering
Cross Cut	Butter and Cheesedis ze
Tmitation	"Crown" (A. H. Hildiek) 40 to 100 B, 15c III
rill's	Parallel, Parker's. dis 10 Wilson's dis
cn. Counter, No. 161	Howard's dis 200 to Merrill's GIS 15 Bargont's GIS 15
banks discos s discos s discos s discos s	Trenton
cales. ch. Counter, No. 171.	Double Screw Leg
Favorite dis 30 S	"Family." List
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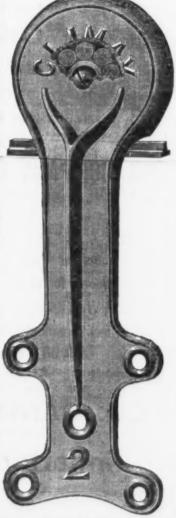
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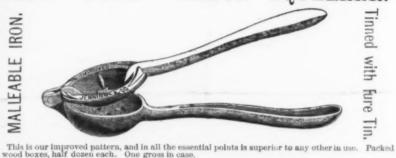
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OCTOBER 8, NOVEMBER 6, DECEMBER 3 and 31, 1881, JANUARY 28, FEBRUARY 25, MARCH 25, APRIL 22, MAY 20, JUNE 17, JULY 8, AUGUST 5, and SEPTEMBER 2, 1882 This Supplement is published in

FOUR LEADING COMMERCIAL LANGUAGES

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Angers and Auger Bits.—New List January 1. Bates' Nut Augersdis 40 %	Double Pointed Tacas
Watrous' Ship Augers	Genuine Oneida—Newhouse Im. Oneida—Newhouse list.
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Double Bit Axes	Genuine Oneida—Newhouse Genuine Oneida—Newhouse list, Vises.—Solid Box. Trenton n Wrenches.—Agricultural Coes' Genuine " Mechanics' " Mall. Bar. Philada. Tool Co., Duniex
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Gt. Western & Kentucky Cow, new listdis 50 1 Bolt and Rivet Clippers.	Galvanized No. 7 to 18Mi
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Boring Machines.	Universal, No. 216
Angular, without Augers	2
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Goring Machines. Upright, without Augers. List 5.50 angular, without Augers. 5.75 dis 40 % Angular, without Augers. 5.75 dis 40 % Angular, without Augers. 5.75 dis 40 % Angular, without Augers. 6.75 dis 5.75 dis 40 % Angular, without Augers. 6.75 dis 6.7	PITTSBU
Spofford	Merchant TERMSNote or acceptance
Butta.—Cast Fast Joint. Narrowdis 40 % 10 %	Terms.—Note or acceptance rate of exchange on New Yor cent. for cash, if remitted wit invoice.
Cast Loose Joint, Narrowdis socio %	For fluctuations
" Acorn, Loose Pin	on card rates see
Wrought Loose Pin	burgh Trade Repo
Narrow, Fast	The following are card rate: Flat Be
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Parker	th to 4 by 36 to 1 inch
Huffer'sdis 50 g	Rounds and
Charms.—German Haiter and Colf. new list Oct. 22,	Rounds and 1 to 176 Rounds and 1 to 176 1 to
Best Proof Coll Chain—English.	3% to 4
Chinels.—Socket Framing	
Huffer's	54 to 54
Casters Bed (new list July 1, 1850,) dis 40% 5 Plate	Half Oval and H
Coffee Mills.—Box and Side, new list Jan. 1.	
Cutlery.—Walden Pocketnew list net	Wagon Box
Outlery. — Walden Pocket	Inch, Nos. 13 and 14
Brawing Knives. Hart Mig. Co. 8	13 and 14
Hart Mig. Co.'s	" " II and 12
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Bandles. Boynton's Pat. Saw Handles	154 to 2, No. 22
Hatchets.	15-16, 1, and 114, Nos. 16, 17 and 15-16, 1, and 114, Nos. 19 and 20.
Huntdis 20210 5	15-16, 1, and 114, No. 21
Crown-44 in. roll. — 6 in. roll. — 7 in. roll. — 7 in. roll. — 7 in. roll. — 7 in. roll. — 8 in. roll. — 9 in. roll. — 8 in. roll. — 8 in. roll. — 6 in. roll. — 8 in. roll. — 6 in. roll. — 8 in. roll. — 6 in. roll. — 7 in. roll. — 8 in. ro	Nos. 16, 17 and 18
Ausable Pol'ed & P't'd and	16, NO. 22
GlobeNow list, 28 25 23 22 21 20	13-16, Nos. 16, 17 and 18
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Mattocks. Long and Short Cutternew list35 9 Pennsylvania Patters	Nos. 19 and 20
Molasses Gates. Enterprise Mfg Co's Measuring Faucets dis 25 %	% No. 23
Lincoln's Landers, Frary & Clark's Petroleumdis 20810 9	ries.
Brass Liquor Cocks, new list Jan. 3 1884 dis 40 % Cork Lined "	1-10c per lb. extra will be lighter than the lightest indi- 1-10c per lb. extra will be ch to specified lengths. Barrel H
Dixon's	to specified lengths. Barrel H
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Americandis 25 % Stuffersdis 30 %	Extras for Cutting to Leng
Planes,—Ohio Tooi Codis 30&5 % Beloto	All Iron, including Tire Tank Ir
New York Tool Codin 40 %	No. c and heavier. Tank it Plow Slabs. Sheet it Common.
	Sheet It Common.
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Bailey	No. 15 to 17
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	THE IR
Serews. Flat Head Iron. Round Read Brass. Speous.	dis 40 % See Pitteburgh Trade Re
Spoons.	dis 30 5 dis 35 5 Best Quality Resistance, Flat, Oct 5 inches, inclusive
Speons. Platedd. German Silverdu Britannia, Boardman's Parker's	Square, Flat, Oct 18 40, 85 c 4 % to 2 inches, inclusive. 0 30, 105 c 5 16 and 2/5 to 3 inches. (dis 65 4 3/5 to 4 inches.) 48 and 3/5 to 4 inches. (dis 64 3/5 and 1/5 to 5 inches.) 3/15 and 1/5 to 5 inches. (dis 10 5 inches.) 48 and 1/5 to 5 inches. (dis 10 5 inches.) 48 and 1/5 to 5 inches.
Springs.—Torrey	s 22. 10 10 % inch. oz. dis 24 % inch. oil Well Steel Forgings Machine
No. 2, Medlum Jap'd "2. No. 2, Small Jap'd "2. Stocks and Dies. Stove Polish,—Gom F gross, \$	90) 35&10 % 00) 01s 10&5 % Ordinary Sizes, % to 3 inc 4.50, dis 5 % Round
Tinned. Springs.—Torrey. Springs.—Torrey. Springs.—Torrey. Springs.—Torrey. Chatfield No. 1, \$2.75; 2, \$2.85; 3, \$5.00 doing. Gem Coul No. 1, \$2.75; 2, \$2.85; 3, \$5.00 doing. No. 2, Medium Jap'd. No. 3, \$mail Jap'd. 2, \$1.00 doing. Stove Poilsh.—Gem. Dixon. Onvx. Tacks. Show Nalls.—4-8, 0-50; 34-8, 100 \$ 5.00 Double Pointed Tacks. Tracks. Tracks.	00) dis roks % Ordinary Sizes, % to a inc 4.50, dis 5 % Round .00, dis 10% 5-16 and 3/5 to 3 inches. .02 4.25 net 4 and 3/5 to 6 dis 30&20 % 7-32 inch
Traps. Genuine Oneida—Newhouse	dis 30 % Square, Flat and Octagor
Traps. Genuine Oneida—Newhouse iss, first qual. Im. Oneida—Newhouse liss, first qual. Wrenches.—Agricultural. Occas of the Mechanics "Mechanics" "Mall Bar. Philada Tool Co. Duplex.	dis 30 % dis 70 % 5 % Above 2 inches
No. 15 to 25	5714 to 60 % 10. Extra for each addition to 63% to 65 % 4215to 45 % Miscellaneo
Peerless No. 21/4	Frog Points and Plates
Universal, No. 2½ Novelty, No. 10	" and Mattock, bevelo
PITTSBURGH.	Coal and Granite Wedge.
Merchant Iron	Spindle, subject to Machi Trap Spring Steel Forged Crank Pins and La Piston Rods, plain
Terms.—Note or acceptance at 66 days, wirate of exchange on New York, or a discouncent for cash, if remitted within 10 days from 100 ce.	om date of " forged to shape
For fluctuations and dis on card rates see weekly burgh Trade Report.	Pitts-Boiler, Fire-Box and Flue thick.
The following are card rates.	ately
Fiat Bar. 134 to 4 by 36 to 1 Inch. 134 to 6 by 36 to 1 134 to 6 by 146 to 14 134 and 146 by 36 to 34 14 and 146 by 36 to 34 15 and 15 by 36 to 34 36, 36 and 36 by 36 to 36 inch.	
%, % and % by % to % inch	2-90 Square, Round, Half Round, 2-70 Mill Saw, 8-Inch and over. Taper, 334-Inch and over. Horse and Shoe Rasp.
2 to 2)6	3.10 Spiral and Taper, cut to le
96, 34 and 36 by 36 to 36 inch. Rounds and Squarea. 1 to 174	3.50 13.4 and over 13.16, %x3.16 and \(\)4. 1 and 13.10.1\(\)6 and \(\)5. 2.30 4 and \(\)4x3.1 and \(\)3.2 and \(\)3.30 3.70 Solid Safe Cast Sleet Agricultural Invariance Invarianc
10 14 15 16 16 17 18 18 18 18 18 18 18	3-70 Solid Safe Cast Steel Agricultural Imp
Morse Shoe. Wagen Ber from	Horse Rake Steel, cut to le Hoe. Crucible. Corn Stalk Cutter, beveler
76 Inch, Nos. 13 and 14	Bessemer and
is and is.	
14 to 6 by 14 and 6-16 lnch 14 to 14 by 14 and 6-11 1 to 15 by 14 and 6-15 1 to 15 by 14 and 6-16 14 to 15 by 14 and 6-16 15 and 15 by 14 and 6-16	4.4c Tire, 3-16 thick and above. The Calk Plow. 2.7c Axle Billets 3.8o Sleigh Shoe Cutter Shoe, cut to length 3.5c Scythe Back Steel
78 and 79 07 % and 1-10 11% to 6 by 16 to 3-16 11% to 6 by Nos. 11 and 17. 12 to 17% by 16 to 3-16	Points.
t to 1% by 16 to 3-16	2.10 LANGEBUR SUDEL
to 1% by Nos. 11 and 12. % and 13-16 by 16 to 3-16. % and 13-16 by 16 to 3-16. % and 11-16 by Nos. 11 and 12. % and 11-16 by Nos. 11 and 12. % and 11-16 by Nos. 11 and 12. % and 9-16 by 16 to 3 16. % and 9-16 by 16 to 3 16. % inch by 16 and 3-16. % inch by Nos. 11 and 12. Hoop Iron.	3-5c Terms.—Four months; 3 3-7c fremitted within 30 days 3-8c Rells and Loc Furnace, Floor and Straig
hinch by hand 3-10. hinch by Nos. 11 and 12. Hoop Iron.	Band Rolls and Pintons to
154 to 2, No. 19. 154 to 2, No. 20. 154 to 2, So. 20.	Rolling Mill Castings under Spur and Bevel Wheels, la
Hoop Iron. 14 to 2, Not. 18, 19 and 18. 14 to 2, No. 19. 14 to 2, No. 20. 14 to 3, No. 21. 14 to 2, No. 22. 15 to 1, No. 22. 15 to 1, No. 22. 15 to 1, and 156, Nos. 13, 14 and 14. 15 to 1, and 156, Nos. 10, 17 and 18. 15 to 1, and 156, Nos. 19 and 20. 15 to 1, and 156, No. 21. 15 to 1, and 156, No. 21. 15 to 1, and 156, No. 22. 16 Nos. 15, 14 and 15. 16 Nos. 16, 17 and 18. 16 Nos. 16, 17 and 18. 17 Nos. 16, 17 and 18. 18 Nos. 19 and 28.	Pulleys up to 30 inches
15-16, 1, and 136, No. 21. 15-16, 1, and 134, No. 22. 16, Nos. 13, 14 and 15.	3-90 CA-file
a, No. 21	3-90 25 to 24 in. " 15 to 71 ii
13-10, NOS. 10, 17 MM 10, 18. 13-16, NOS. 19 and 20. 13-16, NO. 21	400 Strictly Pure White Lead
k, Nos. 16, 17 and 18.	4.10 Bry White Lead
16, NO. 21 4, NO. 22 11-16, NO6. 13, 14 and 15, 11-16, NO6. 16, 17 and 18, 11-16, NO. 19 and 20, 11-16, NO. 21. 11-16, NO. 22. 6, NO8. 13, 14 and 15.	from date of invoice, a di
II-16, No. 31. II-16, No. 22. 6, Nos. 13, 14 and 15. 6, Nos. 16, 17 and 18. 5, Nos. 19 and 20. 2, No. 27.	# 450 Windo # 450 Per Box of 50 Feet. — Discour.
No. 22	
76, Nos. 13, 14 and 15, 1-16, Nos. 16, 17 and 18, 1-16, Nos. 19, 21 and 20, 1-16, Nos. 19 and 20, 1-16, No. 21, 1-16, No. 22, 1-16, No. 23,	4.00 4.00 6 x 8 to 10 x 14
9 16, No. 22 9 16, No. 23 16 Inch, Nos. 13, 14 and 15	15 x 36 to 24 x 36
Nos. 19 and 20	490 30 X 53 to 30 X 54 5-10 30 X 53 to 30 X 54 5-20 3 X 56 to 34 X 56 5-30 36 X 60 to 40 X 60 5-40 36 X 60 to 40 X 60
The prices under Hoop Iron do not apply fies. 1-100 per 1b. extra will be charged for a tighter than the lightest indiated.	6 x 8 to 10 x 15
to specified lengths.	ting floops 15 x 36 to 24 x 36
o to 11 lbs, per set of 6 hoops. 8 lbs, and less than 9 lbs, per set of 6 hoops. Less than lbs, per set of 6 hoops.	3. 50 30 X 53 to 30 X 54
Extras for Cutting to Length all Freeedi. All Iron, including Tire	An additional to per o
No. c and heavier	inches, will be charged in
Common. Charcoal. No. 16 to 14	Juniata 6.50 6.80 7.10
No. 22 to 24	alass more than 40 Inches in length and not inches in length and not inches in length and not inches, will be charged in inches in
No. 28	ches wide
Nos. 13 to 24	1 Blooms.) 150 160 186
Coal Screen Iron.	3.50
1% 07 % 07 % 10	
i% by i in.h, for Plow Handles	3.80
8 lbs. to the yard2.9c 20 lbs. to the yard2.8c 28 28 28 28 28 28 28	TISCHE
### B lbs. to the yard	oc each; 28
2) by 5 to 8-lb. Rail. Fig. Rails.—Punched and Counters 1/4 to 2 by ½ to 56 inch. 1/5 by 58 and 7-16 inch. 1/4 by 58, 7-16 and ½ inch.	unk
Tuniata Nati Rada	6.sc
Norway Guard fron 75x 16x 16x 16x 16x 16x 16x 16x 16x 16x 16	Loc hyd

	See Pitteburgh Trade Report.			STATE OF
	Best Quality Refined (Square, Flat, Octagon an to sinches, inclusive	d Round	L	.110
	5-16 and 2/6 to 3 inches. ¼ and 3/6 to 4 7-52 and 4/6 to 5 3-16 and 5/6 to 6		*******	.130 .130
	inch.	*********	*******	.210
	Oil Well Steel Forgings	2.		19%C
5	CIUIDALY GIZES, se to 2 inch	de. Op	en Hea	rth
2	4 and 34 to 6		50	
	3-16		70	
5	Square, Flat and Octagon, Mc ex list. Cut to specified lengths, Mc extr		ighout	the
Š	Hammer Cust Ste			7 0
5	Sheet Steel.—Cruc	ible.		.8 c
ı	Best ad Onal ad C	Be	en Hea	r &
	cut to multiples or specified len	gths, Mc.		
	Miscellaneous Cast	Steel		7C
ì	Auger and Auger Bit Axle Steel for carriages and wago Frog Points and Plates. Side Bars. Pick, plain.			8)40 70
ı	Skate Steel	*********	******	7560
ı	Pike and Cant Hook Coal and Granite Wedge			7560 7560 8560
ì	Roller Spindle, subject to Machinery clas Trap Spring Steel. Forged Crank Pins and Lathe Spir Piston Rods, plain	ssification	n	6e 76
ı	Forged Crank Pins and Lathe Spir Piston Rods, plain forged to shapes Slide Bars, plain	dles		616C
193	" forged to shapes	*********	******	6560
8	Boiler, Fire-Box and Flue Sheets,	not less	than .	
1	Boiler, Fire Box and Flue Sheets.	not less	than	0360
	Circulars and semi-circulars, who ately Smoke Stack, to shape	on order	ed sep	Sc.
e e	Locomotive Tank Steel	4		8c 70
000	Square, Round, Half Round and inch and over. Mill Saw, 5-inch and over. Taper, 34-inch and over. Horse and Shoe Rasp.	Flat B	astard,	8-
2	Taper, 31-inch and over. Horse and Shoe Rasp.	*********	******	814C
000	Spring Cast Stee Spiral and Taper, cut to lengths	el		.6)6c
000	IX and over			21/0
2	x3-16, 14x3-16 and 34. 1 and 13-16x14 and 5-32, 34x3-16 and 34 and 34x14 and 3-32 and 12 g. Solid Safe Cast Steel	5-33		7160 80 8360
	Solid Safe Cast Steel Agricultural Implement	Cast Ste		90
1	Horse Rake Steel, cut to lengths (Puolible		7360
0	Hoe, Crucible Corn Stalk Cutter, beveled Beveled Hoeand Shovel Steel in B Crucible Plow Steel in slabs	ars	******	7560 7560
000	Bessemer and Open		******	60
000	spring spiral and taper, cut to len	gths	******	4160
	Toe Calk Plow Axle Billets		*******	4160 4160
0	Sleigh Shoe. Cutter Shoe, cut to lengths and ta	pered	*******	40 40
0				7'60 8'60
000	Rolling Coulter Blanks, cut and p Thrasher Steel. Teeth. Rolled Hammer Billete	unched.	******	4500
000	Rolled Hammer Billets Terms.—Four months; 3 per centif remitted within 30 days.	t. discour	at for c	.5160 .4360 ash,
2000	Rolls and Casti Furnace, Floor and Straightenine	ngs.		
8	Furnace, Floor and Straightening Housings and Castings not otherw Guide Plates Spindles and coupling boxes	rise speci	fled	3 0 3 6
ê	Housings and Castings not otherw Guide Plates. Spindles and coupling boxes. Sand Rolls and Pintons, large size Pipe Mill Castings. Rolling Mill Castings under so lbs. Spur and Bevel Wheels, large			3 C
000	Sand Rolls and Pintons, large size Pipe Mill Castings. Rolling Mill Castings under so lbs. Spur and Bevel Wheels, large amail. Pulleys up to 30 inches. over 30 inches.			3740
900	Pulleys up to 30 inches			4 4 C
8 8	Engine Castings, light			4360
000	6 to 7 in. diam., 7 to 20 in. long.			.48(c
2000	White and Bod			454C
000	Strictly Pure White Lead in Oil, in Tin Pails, bc. with over ke Palls, ic with over keg price; as 3c. per bover keg price.	in kegs	70.: 1	n as
000	Dry White Lead			
888	Red Lead. very brillant. In kegs	70: in i	parrels	6%(c 6)(c
999	Freights equalized with all poir Terms: Note at sixty days, or if from date of invoice, a discount be allowed, but not otherwise	paid wit	thin 15	days will
000	Window Gias	10.		
900	Per Box of 40 Feet.—Discount bok 10 bok 20 % on doubt	s on sing	gle stre	ngth,
000	Size. A	A. A.	В. 1	C.
000	5 x 8 to 10 x 14 88	26 87.50	\$7.00	86.50
000	15 X 36 to 24 X 30	35 8.50 175 9.75 135 10.75	8,00	7.75 8.50
000		.00 II.50 .50 I3.25	9.75 10.75 11.35	9,50
000	30 x 52 to 30 x 54	.00 14.50 .25 15.50 .25 17.20	12.00	
C C D	Double Strength.	18.70	1	
e	11 X 14 to 16 X 24	13.75 13.75 149 15.75	10.71 12.50 14.00	10.00
6	15 X 36 to 24 X 36	17.25 1.00 18.50 1.25 31.25	14.50 15.75	
e	26 X 46 to 30 X 50	1.00 22.50 1.75 23.25	19.35	
e	10 x co to 40 x 00	37.75 3.25 30.00	21.75 24.00 27.75	
c	An additional to per cent, will class more than 40 inches wide, inches in length and not making	All size	rged for	or all
000	inches in length and not making inches, will be charged in the & un	more the	an 81 ui hes bra	cket.
100	Ct. O. o.	1/	. 905	7
СЩ	C - O O - 1			



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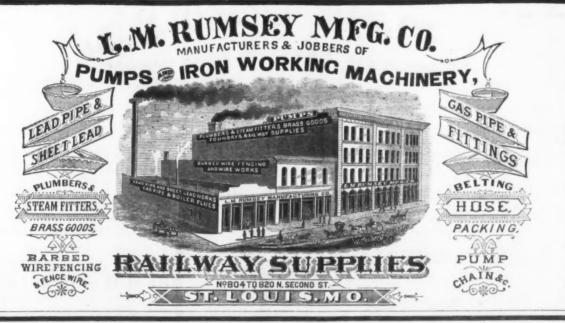






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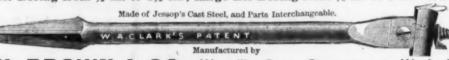


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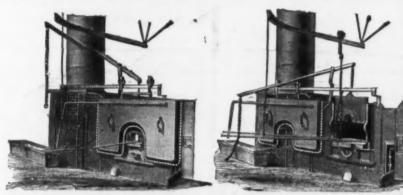
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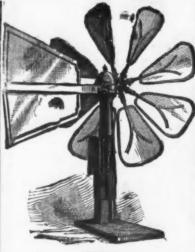
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S		Repor	rted b	y Mac	ombe	r, Big	elow d	t Do	1080-	
١		Anvils.	"Ea	gle Am	erica	a"	W 1	934c.	dis	20 %
1		Anvil & No. 1, 85 Augurs L'Homn Jenning Cook's I Shepard	& B	tta.— u's Shi	neil's D Aug	each s Auge	F	itb	dis dis krok	25 % 10 % 15 %
۱	ı	Cook's I	litts	Doubl	e-Cut	Bitts.		di	dis.dis	10 % 45 % 40 %
	l	No. 2, Bonney' Pierce's	e dos	ension	Hotl	3, w do	gers	. F do	s 83	30 % 36.00 40 %
l	ŀ	Axes.—B Red Cro		okota				per c	los	0.00
I	ı				oys'			d	In 33	2.00
9	ľ	Ax Han	dles.	In 18	. 1			- W d	low e	2.38
١	ı	64 64	31 34	in., No	B			# d	OE	1.75
ľ	ı,	Axle Cit	DB	01 31 1				******	dia :	1.25
l	ı	Ralance	m.—Cl	hatillo	n's			dis	HEAD!	10 %
ı	ľ	Barn De Cast Ans " Hal Wrought Bells,—C	de (fo	r Anti	Friet	or Ha	ngers). per ft	per	ft.	20. 40.
ı	ı	Bells,-C	onnel	's Crai	ak Go	ng red	uced lis	tdis	208(1	10 %
	ľ	Japanno Brass Blind Fa No. 6 Fas Veazie Fa Shedd's	d M. 1	B. & D.	, redu	ced lis	£, 1879	d	dis a	10%
	ŀ	Blind Fa	sts	-Lock	Fasts			P C 86	ta 8	4.00
	ı	Veagie Fa	ASES					P C ne	te c	5.50 7.00
	I A	Blind Hi Brad Aw Phœnix	HECM		I ZEUU	me, 3 and	ARCID 1	P C SC	1800	5. OU
	l at	Dallow No.	OWNER	r Tron	Carri	0.000	******	P di	DE \$2	.00
	H	Common Cornx.—I Corng M	Refine	ed		***	*******		Is 8	0 %
V	-	Eagle Up	right gie er	each,			. \$5.50 lis	st di	140&1	10%
ľ	H	Snell Au	Barbe	er's				dis	408t 1	43
	81	Backus'	Sa w	Ho	ly Ser	oll Sar	W	dis so	& 10	5 %
	~	Demas La Bracket S	the s	nd Sci	roll Sa qualit	y, to N	0. 5	W R1	6.	50
		Spofford' Backus' Fragket ! Demas Li Bracket ! Steel Frai Lester New Roge	me, w	ith pa	fterns			. P de	is 6	50
١	81	New Rog	ers. a	ll iron	PR.			(118 29	5 %
Ì	B	racket Griffith's Fackets	pater —H.	E. & B	l. Flo	wer Po	t reduc	ed lis	088 7 t—	5e
ı		Bronzed 8 Store She						dis .	C&10	16
ı	H	ronze k	nion	Fast Jo	int			, 40/E1	0810	2
ı			8-0 6-1	Japan Silver	ned A	corn	di	B SOULT B SOULT	0810	2
ı	ı	Union Spi	ral S	Boston pring.	Finis	h		dis 7	5810	20.00
k	C	Union Spi Wrought arringe Common	Brass	s.−Ka	gie No	rway	*******	dis	18 75 7000	5%
l	B	Common arriage Climax	JRC	AL III a						-
ı	,	8.6	No.	11/6	******	*******	*******	# doz		
ı		"Universe	No.	2	*****	******	*******	d	13.4 is 25	E/O
ı		84	CAO.	Z				.each	\$2.0	20
۱		86	No.	3			* * * * * * * i	46	6.0	00
		46	No.	5		0.63-		84	6.4	Sc
	U	artridge ards.—W	atson'	s mak	e, Ro	rse and	1	d		
			64	Cotto	n	d	B 10 %)	New	List	

bisels.—Hart. Bliven & Mead, Fr Underhill, Framing. Underhill Franking
Bluck's Chiesels.

lethes Line,
Galvanised Wire, 100 feet each
Jana Heds., "Dover."—Galva
Jananned, new list.

offee Mills.—New list.

owe Ties.
No. 30, 3 ft. No. 6 Wire, with to
No. 35, 3 ft. " with an
No. 40, 35 ft. " with an
No. 40, 35 ft. " with an
No. 40, 35 ft. " with an
No. 50, 4 ft. " with Cutlery.—Pocket, American Shear Co Butener Knives, "Woods," Lap Bo Square Handle. Steak Knives. Lap Bolster, Ovas Handle. ging nning oher, Common Round Handle, "Woods" e Knives, "Woods".

lviders.—Cook's
or Muzzles.—Automatic dis 15 %
cor Springs.—Torrey's Rod. P dos \$2.00 Initiation Torrey's Rod. \$\pi\$ dos \$8.1.7 Gem Coll, new list
oor Stops "Thurston's" dis 50 %
rawer Knobs" Thurston's' dis 50 %
rills,—Morse Bitt Stock
mery.—Wellington Mills
mamelled Ware. Standard Mrg. Co. Kettles
elicePlatesWrought > > 90
Hes.
American list, \$3.40dis 20 %
orks. W. C. & Co., Manure dis 50 %
imlet Bitts. Genuine German, No. 125, 1-32 to 8-32, per doz \$1.03 Pierce's
Inas Cutters. Combination Class Cutter and Knife Sharpener
ammers,-Maydole'sdis 15 %
Hartford Hammer Codis 20 %
angers & Rollers.—Anti-Frictiondis 50&10 %
Acme Rollers. dis % % % % % % % % % % % % % % % % % % %
ntchets —C. F. Downe new list dis mid f
atchets.—C. F. Dowse new list
ny Knives.—Lightning # dos \$18.00 net Fisher's Patent
inges.—Strap and T (new list)dis 50%10%10%
Providence Plate # 104%
Wrought Screw Hook
ooks and Staples Brewers' new list, dis 70%

Hangers								
Acme Ro	llers						dia.	50 %
Common	Hangers.						din	en d
Hand Scr	Rollers					d	in	50 %
Hand Scr	PWR						dis	10%
Hatchets Underhill							dis	25 %
Hay Kni Fisher's I	Patent					P do	m @	14.00
Hinges	Strap and	T (nev	v list)	d	la 503	hors	10 %
Providen	ce Plate						. Br 1	B4%
Wrought	Screw Ho	ok					. Will	4 %
HoesW.	C. & Co.	B					dis	50
Hooks an	d Staple	esBr	ewer	В'	.new	list,	dis	70%
Horse Na National I Putnam F	ila. Finished. Pointed	No	.23 .28	.21 .26	8 20 .	9 19	dis	20 %
Horse Na	IlsBrid	gewate	er				dis	25 %
Horse Na No. 6 2 Ice Cream Knobs.— Silver Gla	Freeze	7. 21 . rs.—Pi	No.	8, 20	ew li	No. 9. st dis	19. 40&	10%
Bilver Gla	MOLWHIE	- TAGA	A TIBE	*****		als	COM:	15 %
**	Bell Pu	118				. GIS	SOOK:	10 %
Lanterns	-Guarde	d No. 9	9			. @ d	08	7.40
Tubulars,	No. 0					. F d	OS	8.00
Railroad. Triangula	F 140. 43					. W d	DE SO	4.00
Hurricane							ritin :	an a
Lawn Mo	wers,-T	he "Da	iay."					_
								0.00
roin, cut.						- 61	- 1	0.50
								0,00
Load.—She Pipe Locks.—Ne Eagte Cab	101						B	7360
LocksNe	orwalk G	enuine	Bron	ze G	oods		dia /	15 %
Eagle Cab	inet						dis :	25 %
W. Wilcon	& Co., P.	adlock	B				dis.	10 %
Manure F	orksV	V. C. & (Co				dis	50 %
Mattocks.	-K. P. &	Co., Lo	ng C	utter	, 16.0	o W d	oz.	
R. P. & Co.	Short C	atter r	r ro %	dos		2.0	118 3	15%
M. F. a Co.	Pick	** 16	1,00 P	doz.			iis 3	15%
Measuring	Tapes.	-Eddy	B				dis a	10
Ment Cutt Hale's, (Ne	ersMil	es' Cha	Heng	0	*****	dia d	iis 3	10 %
American.	W ILBET					tan 40	iis 2	10 76
Money Dra	awers.	Tucker	's Al	arm.		P aoi	6 8 2:	2,50
Novelty	rbsner	usion				. ₩ dc	NE 2	75
Nails	** *** ***		*****			W ke	g. 3	3,50
DilersZi	ne and Ti	n				5	115 5	0 %
Drass and	-Extra fi	nished	and v	arni	shed		186 1	net
Hale's, (Ne American. Woney Dri Mouse Tra Novelty	oz. pair.	85-75 2	in.,	, ar d	OE. I	air	80	-00
Padlecks.	-W. Wile	ox & C	0.8.			d	to 4	0%
Paper.						90		
Tarred She	athing						, 2	40
Tarred She Tarred Eag Picks,—K.	P. & Co., A	ldze Ey	re, 5 8	00 1	12.00	d	la 3	5 %

- 1	Pino W B 7 c
	Pipe
ы	Eagie Cabinetdis 25
7	ii Trunk dis 15 %
- 1	W. Wilcox & Co., Padlocksdis 15
- 1	Manure Forks,-W. C. & Codis & \$
- 1	Manure Forks, -w. C. & Codis 50 3
_	MattecksK. P. & Co., Long Cutter, 16.00 ¥ doz.
	R. P. & Co., Short Cutter, 15.50 # doz dis 35 7 Pick "16.00 # doz dis 35 7
-	Menauring Tapes.—Eddy'sdis 35 %
-	Meassfing Tupes, Eddy S
	Ment Cutters,—Miles' Challengedis 30 % Hale's, (New list)
8	Hale's, (New list)dis 40 & 10 %
70	Americandis 25 % Money DrawersTucker's Alarm P 002 \$22.50
	Money Drawers. Tucker's Alarm F GOE \$22.50
5	Mouse Traps, Delusion # doz 2.00
2	Novelty # doz 75
- 75	MRIII W. Time and Time
2	Novelty F doz 75
%	Ox Bows.—Extra finished and varnishedlist net
2	ald to 20 dog pair & gold in 30 dog pair &con
2	* 12 (12) 14 (1
~	176 May 11 0000 078 11. 01000
20	1% in., # dos. pair\$5.75 2 in., # dos. pair\$5.00 1% in., " 8.00 2% " 11.00 Padlecks.—W. Wilcox & Co.'s
4	Paner.
8	Tarred Sheathing P 3, 21/6
~	Toward Engle Dwand D & al-o
00	Picks.—R. P. & Co., Adze Eye, 5 to 6 h12.00dls 35 % 6 to 7 D13.00dls 35 %
00	" 6 to 7 D 13.00dis 35 %
00	
7	Fancy Planes dis 25 %
	Fancy Planes. dis 35 % Ragee dis 30 %
38	English Irondis 30%
75	Bailey'sdis 20 % 10 %
oó	Plated Ware, Rogers & Bro
25	Pilers Vom Cleff & Co.'s not live
16	Button's Wire Pliers dis 3316 %
	Plumb & Levels, -biancy, R. & L. Co. dis skip S
76	
	American Shear Co.'s dis 40 %
0	American Mear Co. M dis 40%
C	Potato Diggers W. C. & Co. reduced list dis 50 5
e	Pulleys.
5	Acme or Excelsior, 154 inper dez 220
	Acme or Excelsior, 1% inper dez 220
٠.	Patter Biocks dis 40 %
2	Pulley Blacks
	Pitcher Spoutdis 50 %
0	Copperdis 50 %
9	Rivets.—Blackdis 65 ≤
M I	Carriage in to b papers dis 45 %
V.	15 76 The state of

Laundry							雅 雅。	6391
Tailor's	leese	1211111					10	R65
Tailor's C Enterpris	6. "Pot	ta					dis	35
Mash Loc	ksKi	ng & F	Inter	ninec	m's. v	low h	un cita	40.5
Sandpape	erHad	eder &	Ada	msor			4419	1 20
M B. & D	**** ****						dis 25	Ac s 1
Sash Wel	ghts	-Paten	t Eye	P			. è B	136
SawsH	and Saw	rs. Dist	ton'	B			dia	20.5
Wheeler	k Clems	on					. dis	20 1
Cross-Cut S	aws.							
W. M. & C	., Comp	non To	oth.	No.		1	P foot	£ 350
			46				# foo	£ 350
Disston's,	Commo	on	6.0		30	foot	68c die	8 40S
60	Gt. Am	erican	6.0		303	Pront 1	686 484	
Boynton's	Lightn	ing	0.0				W foot	E ASI
M. B. & D.	, Hand							
W. M. & C	O. 'S. C11	reular	Sawi				clin	25 %
Richardso	n Bros.						.dis	25 %
Naw Black	les Di	isston.					clin	20 %
W. M. & C							dis	138
W. M. & C Welch & C	iriffith,	Extra			1000	W	dog a	88.40
	**	NO. 2 .				40	dos	7.00
ScalesF	airbank	B					(116	20 %
Screws/	liken's	Flat-H	lead	fron	136	ow lin	t. Obs	40 %
American	Flat-He	ad Iro	n			0.0	dis	
American	6.6	Bra	188		100	8.6	dia	
40 E	tound-H	lead "				6.6	dia.	30 %

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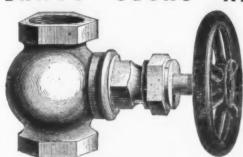
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58	" Round-Head "	G18 30
ŝ	Round-Head Iron	clin as
5	Grilley " Nickel-plated Comme	on die so
1	Scythes Clippers, in boxes	COR RO. Or
ю	Shaves,-Kimball's	inch 750
20	Watrons	diane
o	Shears.—American Shear Co., new list	-61s 20
%	Shot,—Tatham's. Shovels.—O. Ames. new list	# 10 g
О	ShovelsO. Ames. new list	dia 15
О	O. Ames, other brands, new list	di 15
o	M. B. & D	diare
o	Oxford Birmingham Pattern	dis 40
c	Sinks.—MageePatent	die an
S	Snow Shovels Malleable tips	\$3.0
п	SkatesUnion	dis 25
л	Acme	dis 25
и.	Imperial Club list No. 5, \$3.75 per pair,	list No.
٠.	5.00 per pair	dis 25
SΒ	Stock and Dies,-hing's	GIR LOUE
3	Tacks A. Field & Son s	18 30&I /
3	Pittsfield	1830#10
3	Swedes Tinned	456010
3	Swedes Iron	. 30810
3	Gimp and Lace	
3	Copper Tacks	30810 1
3	All balances on list	25 10
3	Traps.—Oneida, Genuine Oneida, Imitation, H. & N	dia 331/2 1
	Oneida, Imitation, H. & N	dis 50
	Blake'sdi	8 40 & 10
п	Vises Simpson's Adjustable	lis 2585 ;
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3	Prentiss'	dis 20 5
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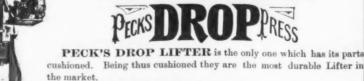
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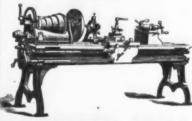


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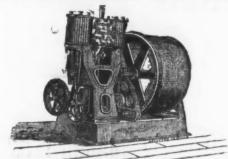


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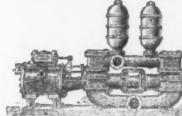


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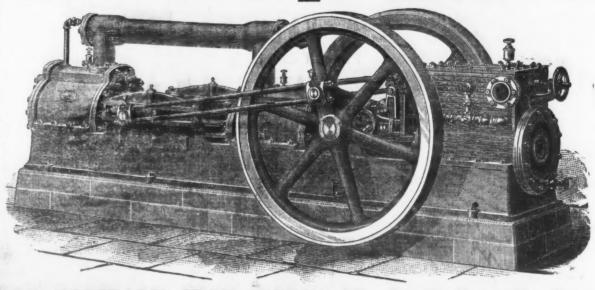
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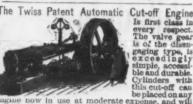
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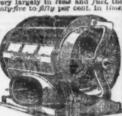
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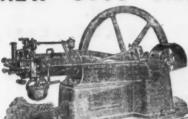


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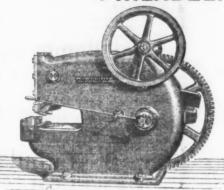


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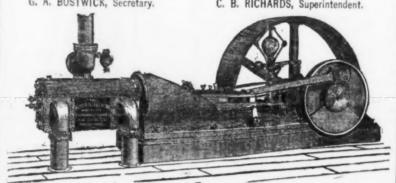
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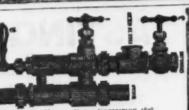
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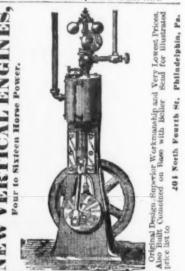
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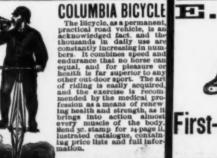
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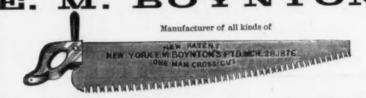
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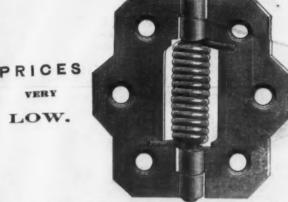


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